Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13 (electronic form)

Prior to completing this form, you **must** read the instructions for the subject general permit at **DEEP-WPED-INST-015**.
This form must be filled out electronically before being printed.
You must submit the registration fee along with this form.

The status of your registration can be checked on the DEEP's ezFile. Portal. Please note that DEEP will no longer mail certificates of registration.

CPPU USE ONLY

App #: _____

Doc #: _____

Check #: _____

Program: Stormwater

Part I: Registration Type

Select the appropriate boxes identifying the registration type and registration deadline.

	Registration Type			Registration Timeline
☐	**Re-registration** **Existing Permit No. GSN** _____			**On or before February 1, 2014*** *Note: Failure to renew a permit by this date will require submission of new registration. Re-registrants must only complete Parts I, II, III, IV - Question 1, VII and submit Attachment A.
☑	**New Registration** (Refer to Section 2 of the permit for definitions of Locally Exempt and Locally Approvable Projects)	☑ **Locally Approvable** **Size of soil disturbance:** 4.05		**New registration - Sixty (60) days prior to the initiation of the construction activity for:** For sites with a total soil disturbance area of 5 or more acres
		☐ **Locally Exempt** **Size of soil disturbance:** _____	☐	**New registration - Sixty (60) days prior to the initiation of the construction activity for:** Sites with a total disturbance area of one (1) to twenty (20) acres except those with discharges to impaired waters or tidal wetlands
			☐	**New registration - Ninety (90) days prior to the initiation of the construction activity for:** (i) Sites with a total soil disturbance area greater than twenty (20) acres, or (ii) Sites discharging to a tidal wetland (that is not fresh-tidal and is located within 500 feet), or (iii) Sites discharging to the impaired water listed in the "Impaired Waters Table for Construction Stormwater Discharges"

Part II: Fee Information

1. New Registrations

   a. Locally approvable projects (registration only):

☑ $625

   b. Locally exempt projects (registration and Plan):

☐ $3,000 total soil disturbance area ≥ one (1) and < twenty (20) acres.

☐ $4,000 total soil disturbance ≥ twenty (20) acres and < fifty (50) acres.

☐ $5,000 total soil disturbance ≥ fifty (50) acres.

2. Re-Registrations

☐ $625 (sites previously registered prior to September 1, 2012)

☐ $0 (sites previously registered between to September 1, 2012 and effective date of this permit)

Total Fee: $625.00

The fees for municipalities shall be half of those indicated in subsections (a), (b) and (c) above pursuant to Section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by certified check or money order payable to the Department of Energy and Environmental Protection.

Part III: Registrant Information

- If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of the State. If applicable, the registrant's name shall be stated **exactly** as it is registered with the Secretary of the State. This information can be accessed at **CONCORD**
- If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Registrant /Client Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

   Registrant Type: State Agency

   Secretary of the State business ID #:

   Mailing Address: 359 S Main St

   City/Town: Thomaston State: CT Zip Code: 06787

   Business Phone: (203)591-3544 ext.:

   Example:(xxx) xxx-xxxx

   Contact Person: Richard N. Symonds, P.E. Title : District Engineer

   E-Mail: richard.symonds@ct.gov

2. List billing contact:

   Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

   Mailing Address: 359 S Main St

   City/Town: Thomaston State: CT Zip Code: 06787

   Business Phone: (203)591-3544 ext.:

   Contact Person: Richard N. Symonds, P.E. Title : District Engineer

3. List primary contact for departmental correspondence and inquiries:
   Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
   Mailing Address: 359 S Main St
   City/Town: Thomaston State: CT Zip Code: 06787
   Business Phone: (203)591-3544 ext.
   Contact Person: Richard N. Symonds, P.E. Title: District Engineer

4. List owner of the property on which the activity will take place:
   Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
   Mailing Address: 359 S Main St
   City/Town: Thomaston State: CT Zip Code: 06787
   Business Phone: (203)591-3544 ext.
   Contact Person: Richard N. Symonds, P.E.

5. List preparer:
   Name: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION
   Mailing Address: 2800 BERLIN TPKE
   City/Town: NEWINGTON State: CT Zip Code: 06111
   Business Phone: (860)594-3337 ext.
   Contact Person: Andrew Esposito Title: Transportation Engineer 3

6. List design professional:
   Name: BL COMPANIES, INC.
   Mailing Address: 100 CONSTITUTION PLZ, 10TH FL
   City/Town: HARTFORD State: CT Zip Code: 06103
   Business Phone: (860) 760-1930 ext.
   Contact Person: David Cicia Title: Principal Engineer

7. List Reviewing Qualified Professional (for locally approvable projects only):
   Name: BL COMPANIES, INC.
   Mailing Address: 100 CONSTITUTION PLZ, 10TH FL
   City/Town: HARTFORD State: CT Zip Code: 06103
   Business Phone: (860) 760-1918 ext.
   Contact Person: Michael Fisher, PE Title: Senior Project Manager

Part IV: Site Information

1. Site Name: 0055-0142
   Street Address or Description of Location: Route 10/202, Route 20, and Route 189
   City/Town: Granby State: CT Zip Code: 06035
   Brief Description of construction activity:
   Roadway widening. Full depth and milling pavement work. New sidewalk and drainage structures.

   Project Start Date: 13 Sep 2021 Anticipated Completion Date: 30 Nov 2023
   Normal working hours: 7:30 to 4

2. **MINING** : Is the activity on the site in question part of mining operations (i.e. sand and gravel)? ☐Yes ☑No

If yes, mining is not authorized by this general permit. You must submit the Registration Form for the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

3. **COMBINED OR SANITARY SEWER:** Does all of the stormwater from the proposed activity discharge to a combined or sanitary sewer (i.e. a sewage treatment plant)? ☐ Yes ☑No

If yes, this activity is not regulated by this permit. Contact the Water Permitting & Enforcement Division at 860-424-3018.

4. **INDIAN LANDS:** Is or will the facility be located on federally recognized Indian lands? ☐ Yes ☑No

5. **COASTAL BOUNDARY:** Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☐ Yes ☑No

The coastal boundaries fall within the following towns: Branford, Bridgeport, Chester, Clinton, Darien, Deep River, East Haven, East Lyme, Essex, Fairfield, Greenwich, Groton (City and Town), Old Lyme, Guilford, Hamden, Ledyard, Lyme, Madison, Milford, Montville, New London, New Haven, North Haven, Norwalk, Norwich, Old Saybrook, Orange, Preston, Shelton, Stamford, Stonington (Borough and Town), Stratford, Waterford, West Haven, Westbrook and Westport.

If "yes", and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, you must provide documentation to the DEEP Office of Long Island Sound Programs or the local governing authority has issued a coastal site plan approval or determined the project is exempt from coastal site plan review. Provide this documentation with your registration as Attachment B. See guidance in Appendix D of the general permit. Information on the coastal boundary is available at the local town hall or on the **Connecticut Coastal Resources Map** . Additional DEEP Maps and Publications are available by contacting DEEP Staff at 860-424-3555.

6. **ENDANGERED OR THREATENED SPECIES:**

In order to be eligible to register for this General permit, each registrant must either perform a self-assessment, obtain a limited one-year determination, or obtain a safe-harbor determination regarding threatened and endangered species. This may include the need to develop and implement a mitigation plan. While each alternative has different limitations, the alternatives are not mutually exclusive; a registrant may register for this General Permit using more than one alternative, See Appendix A of the general Permit. Each registrant must complete this AND Attachment C to this Registration form and a registrant who does not or cannot do so is not eligible to register under this General Permit.

Each registration must perform a review of the Department's Natural Diversity Database maps to determine if the site of the construction activity is located within or in proximity (within ¼ mile) to a shaded area.

a. Provide the date of the NDDB maps were reviewed: 17 May 2021 (Print a copy of the NDDB map you viewed since it must be submitted with this registration as part of Attachment C.)

b. For a registrant using a limited one-year determination or safe harbor determination to register for this General Permit, provide the Department's Wildlife Division NDDB identification number for any such determination:

_____ (The number is on the determination issued by the Department's Wildlife Division).

For more information on threatened and endangered species requirements, refer to Appendix A and section 3(b)(2) of this General Permit, Visit the DEEP website at **Natural Diversity Data Base** or call the NDDB at 860-424-3011.

c. I verify that I have completed Attachment C to this Registration Form. ☐ Yes

7. **WILD AND SCENIC RIVERS:** Is the proposed project within the watershed of a designated Wild and Scenic River? (See Appendix H for guidance) ☐ Yes ☑ No

8. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped **Aquifer Protection Area** , as defined in Section 22a-354h of the CT General Statutes? (For additional guidance, please refer to Appendix C of the General Permit) ☐ Yes ☑ No

9. **Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines:** Is the activity in accordance with Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines and local erosion & sediment control ordinances, where applicable? ☑ Yes ☐ No

10. **HISTORIC AND/OR ARCHAEOLOGICAL RESOURCES:**

Has the site of the proposed activity been reviewed (using the process outlined in Appendix G of this permit) for historic and/or archaeological resources? ☑ Yes ☐ No

a. The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR ☑ Yes ☐ No

b. The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism, OR ☐ NA ☐ Yes ☑ No

c. The proposed activity has been reviewed and authorized under an Army Corps of Engineers Section 404 wetland permit. ☐ NA ☐ Yes ☑ No

11. **CONSERVATION OR PRESERVATION RESTRICTION:**

Is the property subject to a conservation or preservation restriction? ☐ Yes ☑ No

If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying this registration is in compliance with the terms of the restriction, must be submitted as Attachment D.

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude *(Format: -xx.xxxxx)*	Latitude *(Format: xx.xxxxx)*	
EO1	Pipe	Clay	24"	-72.788866	41.954056	ezFile Portal Map
EO2	Pipe	Concrete	24"	-72.792603	41.941257	ezFile Portal Map
PO1	Pipe	Concrete	24"	-72.788866	41.954056	ezFile Portal Map
PO2	Pipe	Concrete	24"	-72.792603	41.941257	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:

Outfall #	Dates when this outfall will be active:	a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)	b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)	c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges"?	*If you answered yes to question c.1, then answer the question below* c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?	For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)	For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)
EO1	Start: 27 Sep 2021 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	95992	133577
EO2	Start: 13 Sep 2021 End:	Waterbody	200	☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	101635	101708
PO1	Start: 27 Sep 2021 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	95992	133577
PO2	Start: 27 Sep 2021 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	101635	101708
	Start: End:	Select One		☐ Y ☐ N ☐ NA	☐ Y ☐ N ☐ NA		
Provide the total effective impervious area for the entire site(sq ft):						395254	470570

Part V: Stormwater Discharge Information (continued)

Impaired waters: If you answered "yes" to Table 2, question 2.c.1, **verify** that the project's Pollution Control Plan (Plan) addresses the control measures below in Question 1 or 2, as appropriate.

1. **If the impaired water does not have a TMDL,** confirm compliance by selecting 1.a. or 2.b. below:

   a. No more than 3 acres is disturbed at any time; ☐ Yes

   OR

   b. Stormwater runoff from a 2 yr, 24 rain event is **retained.** ☐ Yes

2. **If the impaired water has a TMDL,** confirm compliance by selecting 2.a. and 2.b. below and either question 2.c.1. or 2.c.2. below:

   a. The Plan documents there is sufficient remaining Waste Load Allocations (WLA) in the TMDL for the proposed discharge, ☐ Yes

   AND

   b. Control measures shall be implemented to assure the WLA will not be exceeded, ☐ Yes

   AND

   c. 1. Stormwater discharges will be monitored for the indicator pollutant identified in the TMDL, ☐ Yes

   OR

   2. The Plan documents specific requirements for stormwater discharges specified in the TMDL. ☐ Yes

Part VI: Pollution Control Plan Availability (check one of the following four categories)

☐ I am registering a Locally Exempt project and submitting the required electronic Plan (in Adobe™ PDF or similarly publically available format) pursuant to Section 3(c)(2)(E) of this permit.

- ☐ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally Approvable project and have chosen not to submit the Plan with this registration pursuant to Section 3(c)(1) of this permit.

☑ I am registering a Locally Approvable project and have chosen to make my Plan electronically available pursuant to Section 4(c)(2)(N) of this permit.

- ☑ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally exempt project and do not have the capability to submit the Plan electronically. Therefore, I am submitting a paper copy with this registration as Attachment E.

Part VII: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all required signatures are provided.

For New Registrants:

"I hereby certify that I am making this certification in connection with a registration under such general permit, submitted to the commissioner by E OF CONNECTICUT DEPARTMENT OF TRANSPORTA for an activity located at Route 10/202, Route 20, and Route 189, Granby, CT 06035 and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b) (8) (B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

For Re-registrants:

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____ and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that all designs and plans for such activity meet the current terms and conditions of the general permit in accordance with Section 5(b)(5)(C) of such general permit and that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I verify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this verification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and an other applicable law."

Signature of Registrant	
Richard N. Symonds, P.E.	District Engineer
Name of Registrant (print or type)	Title (if applicable)
Signature of Preparer and Date (if different than above)	
Andrew Esposito	Transportation Engineer 3
Name of Preparer (print or type)	Title (if applicable)

Part VIII: Professional Engineer (or Landscape Architect, where appropriate) Design Certification (for publically approvable and exempt projects)

The following certification must be signed by a Professional Engineer, or Landscape Architect where appropriate.

"I hereby certify that I am a licensed in the State of Connecticut.
I am making this certification in connection with a registration under such general permit, submitted to the commissioner by STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION for an activity located at Route 10/202, Route 20, and Route 189, Granby, CT 06035 .
I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Design Professional and Date	
David Cicia	23439
Name of Professional (print or type)	License Number

Affix P.E/L.A Stamp Here

Part IX: Reviewing Qualified Professional Certification

The following certification must be signed by a) a Conservation District reviewer OR, b) a qualified soil erosion and sediment control and/ or professional engineer

☐ **Review Certification by Conservation District:**

1.) District: _____

Date of Affirmative Determination: _____

" I am making this certification in connection with a registration under General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____.

I have personally examined and am familiar with the information that provides the basis for this certification, and I affirm, based on the review described in Section 3(b)(11)(C) of this general permit and on the standard of care for such projects, that the Stormwater Pollution Control Plan is adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit and that all stormwater management systems: (i) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual; (ii) will function properly as designed; (iii) are adequate to ensure compliance with the terms and conditions of this general permit; and (iv) will protect the waters of the state from pollution."

_____

Signature of District Professional and Date

_____ _____

Name of District Professional License Number (if applicable)

Or

☑ **Review Certification by Qualified Professional:**

Company Name: BL COMPANIES, INC.

Name: Michael Fisher, PE

License #: 21170

Level of independency of professional:

Required for all projects disturbing over 1 acre:

1. I verify I am not an employee of the registrant. ☑ Yes

2. I verify I have no ownership interest of any kind in the project for which the registration is being submitted. ☑ Yes

Required for projects with 15 or more acres of site disturbance (in addition to questions 1&2):

3. I verify I did not engage in any activities associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant.

☐ Yes

4. I verify I am not under the same employ as any person associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant.

☐ Yes

Part IX: Reviewing Qualified Professional Certification (continued)

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in Sections 3(b)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by ATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATI for an activity located at Route 10/202, Route 20, and Route 189, Granby, CT 06035 .
I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(11)(C) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Sections 3(b)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172, and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Reviewing Qualified Professional

BL COMPANIES, INC. | 21170

Name of Reviewing Qualified Professional | License No.

Affix P.E./ L.A. Stamp Here

Note: Please submit the fee along with a completed, printed and signed Registration Form and all additional supporting documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

STORMWATER POLLUTION CONTROL PLAN

Major Intersection Improvements
US 202/Route 10 at Route 20 and Route 189
Granby, CT

State Project No.: 0055-0142
EzFile No. 65526

Connecticut Department of Transportation

February 19, 2021

This Stormwater Pollution Control Plan (SPCP) is prepared to comply with the requirements for the General Permit for Stormwater Discharges (GPSD) from Construction Activities. Also to be considered part of the SPCP are the proposed construction plans, special provisions, and the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 818) including supplements thereto and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control

Table of Contents

1. Site Description

Site Description

This project involves major reconstruction to the intersections of Route 10/202 at Route 189 and Route 20 in the Granby Town Center. This location is classified as an urban area. The proposed improvements include the realignment of Route 20/189, the construction of additional travel lanes, and the coordination of the traffic signals at both of these intersections. Drainage modifications are required as a result of the roadway realignment and widening included in this project. One of the drainage systems located within the project area discharges into the West Branch Salmon Brook River, which is an impaired waterbody that is located 0.7 miles south of the project limits on Route 10/202. The project is not located near any coastal waters, therefore there are no discharges to coastal waters.

This project is not located within an Aquifer Protection Area or a public water supply watershed. According to the National Wild and Scenic River System map, West Branch Salmon Brook is not a wild or scenic river. The NDDB states that there are hoary bats within the vicinity of the project site, these bats are listed as a State Special Concern species.

Factors that affect the ability to infiltrate or dictate retention goals include hydraulic head limitations, adjacent land uses, utility conflicts, cost, and natural resources.

Currently, the proximity of the intersections of Route 10/202 at Route 20/189 and Route 10/202 at Route 189 does not allow for sufficient storage and processing of vehicles between the intersections. As a result of the proximity of the two intersections and limited travel lanes, traffic queues through both intersections creating gridlock, delay, and driver frustration during both the morning and evening peak periods. Furthermore, the current sidewalk system in the area fails to meet current ADA standards, lacks connectivity to key locations, and includes excessively long crosswalks. The purpose of this project is to improve operation, reduce congestion, and create a more well-connected pedestrian facility within the Granby Town Center.

There are two existing drainage systems within the project limits. The northern drainage system collects stormwater from the northern half of the project site and extends approximately 300’ past the project limits on Route 20/189. This drainage system outlets at station 114+20 lt into a wetland located to the north of Route 20 and west of Hungary Road. This outfall will be known as EO1. The southern drainage system collects stormwater from the southern half of the project site and extends approximately 0.7 miles south of the project limits on Route 10/202. At this location the drainage system outlets into the impaired waterbody of West Branch Salmon Brook River. This outfall is located to the east of bridge number 00654 and will be known as EO2.

The proposed drainage improvements include the installation of new drainage structures for both the southern and northern drainage systems. Improvements to EO1 will include the removal and replacement of the existing end wall and the installation of a riprap apron. This proposed outfall

will be known as PO1. The change in flow to EO2 is insignificant when comparing pre-construction to post-construction, and the outfall is located a considerable distance from the project site. Furthermore, this outfall has been investigated and is in good condition. For these reasons, improvements are not proposed to this outfall. This outfall will continue to be referred to as EO2. This project also includes the installation of a drywell in the Town Green.

Site work includes the widening of Route 10/202/189 to provide five 11-foot lanes with 4-foot shoulders. The additional operational lane will allow for "back-to-back" left-turn lanes which will result in double left-turn lanes and a combined through/right-turn lane in the southbound direction and an exclusive left-turn lane, combined left-turn/through lane and through/right-turn lane in the northbound direction. The northbound through/right turn lane will provide a branched-off leg through the northwest corner of the Town Green. This leg will provide access to Route 20 eastbound and will be separated from the intersection by an island that will function as a pedestrian refuge area. Route 10/202, north of the northerly intersection, will be widened to allow for five lanes including an exclusive left-turn and two through lanes in the southbound direction, along with two receiving lanes in the northbound direction.

The Route 20/189 leg of the northerly intersection will be realigned to better establish the east-west movements as the through direction at both approaches by reducing the heavy skew angle and providing a more defined right-turn lane onto Route 10/202/189. The Route 20/189 leg will also be widened to allow for an exclusive left-turn lane, a through lane, and a right-turn lane, and to allow for two receiving lanes from the double left-turn lanes on Route 10/202/189. The Route 20 westbound approach to Route 10/202 will be widened to allow for an exclusive left-turn lane, an exclusive through lane, and a combined through/right-turn lane.

At the southerly intersection, Route 189 will be widened to extend the two-lane approach and to allow for two receiving lanes from the double left-turn lanes on Route 10/202/189. The Route 10/202 leg of this intersection will be widened to allow for a dedicated left turn lane into the Stony Hill Village driveway.

To accommodate the significant amount of pedestrian and bicyclist travel into the center of Granby, concrete sidewalks are proposed to be added to Route 20 east of Route 10/202. Additional crosswalks are also proposed to better convey pedestrian traffic through the northerly intersection. In addition, all shoulders are proposed at a minimum width of 4 feet to further accommodate for bicyclists.

Estimated Disturbed Area

The total area for this project site is 8.60 acres. Of this area, 4.05 acres will be disturbed by construction activities.

Estimated Runoff Coefficient

The runoff coefficient assumed for pavement and concrete is 0.9, for gravel is 0.7, and for pervious areas is 0.3.

Pre-Construction

$$\frac{(2.43 \text{ ac. x } 0.3) + (6.12 \text{ ac. x } 0.9) + (0.04 \text{ ac. x } 0.7)}{2.43 \text{ ac. } + 6.12 \text{ ac. } + 0.04 \text{ ac.}} = 0.73$$

Post-Construction

$$\frac{(1.44 \text{ ac. x } 0.3) + (7.16 \text{ ac. x } 0.9) + (0 \text{ ac. x } 0.7)}{1.44 \text{ ac. } + 7.16 \text{ ac. } + 0 \text{ ac.}} = 0.80$$

Receiving Waters

The immediate receiving waters of EO1 and PO1 are wetlands associated with East Branch Salmon Brook River. This river merges with West Branch Salmon Brook River and becomes Salmon Brook River, which ultimately drains into the Farmington River.

The immediate receiving water of EO2 is West Branch Salmon Brook River. This river merges with East Branch Salmon Brook River and becomes Salmon Brook River, which ultimately drains into the Farmington River.

Extent of Wetlands on Site

The proposed project site does not include wetlands or regulated floodplains. Wetlands are located to the North of Route 20 and West of Hungary road, approximately 70' past the outlet of EO1 and PO1, just outside the project site.

2. Construction Sequencing

The Contractor will be given approximately two construction seasons for the construction of all phases of the project.

The suggested sequence of construction is as follows:

- Conduct a preconstruction meeting.
- Conduct the plan implementation inspection and clearly identify the limits of disturbance (LOD).
- Install erosion and sediment controls at effected inlets/outlets and at the limits of disturbed slopes/toe of slope.
- Mobilize and establish construction field office.
- Coordinate utility work

- Stage 1
    1. Install sedimentation control system.
    2. Perform work required by utility companies in order to complete utility pole relocations.
    3. Establish traffic patterns.
    4. Clear and grub.
    5. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
    6. Relocate mailboxes (approx. station 307+45rt and 307+55rt).
    7. Remove existing sidewalk, construct sidewalk, and install pedestrian push buttons. This work shall be completed on the southern side of the road before beginning sidewalk construction on the northern side of the road (refer to STG-01-B).
    8. Cut bituminous concrete pavement.
    9. Remove existing bituminous concrete pavement and signs.
    10. Remove existing drainage system and install proposed drainage system.
    11. Excavate and form subgrade, place base, install granite curbing, and begin traffic signal work at the intersection of Route 189 and Bank Street.
    12. Perform milling and wedging.
    13. Place pavement.
    14. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
    15. Construct driveways.
    16. Complete finished grading and place topsoil.
    17. Install traffic signs as shown on Traffic plan sheets.
    18. Install plantings and establish turf as shown on Landscape plans.
    19. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.
- Stage 2
    1. Establish traffic patterns.
    2. Install sedimentation control system.
    3. Clear and grub.
    4. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
    5. Construct temporary sidewalk (refer to STG-02-B).
    6. Construct sidewalk and install pedestrian push buttons.
    7. Remove temporary sidewalk and existing sidewalk.
    8. Cut bituminous concrete pavement.
    9. Remove existing bituminous concrete pavement and signs.
    10. Remove existing drainage system and install proposed drainage system.
    11. Excavate and form subgrade, place base, install granite curbing, and begin traffic signal work.
    12. Perform milling and wedging.
    13. Place pavement.
    14. Construct driveways.
    15. Complete finished grading and place topsoil.
    16. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to

receive them.
17. Install plantings and establish turf as shown on Landscape plans.
18. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.

- Stage 3
  1. Establish traffic patterns.
  2. Install sedimentation control system.
  3. Clear and grub.
  4. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
  5. Relocate mailbox (approx. station 115+90lt).
  6. Remove existing sidewalks, construct sidewalks, and install pedestrian push buttons. Complete this work on one side of the road before beginning sidewalk construction on the other side of the road. (refer to STG-03-B)
  7. Remove existing island and install temporary pavement structure.
  8. Cut bituminous concrete pavement.
  9. Remove existing bituminous concrete pavement and signs.
  10. Remove existing drainage system and install proposed drainage system.
  11. Excavate and form subgrade, place base, install granite curbing, and begin traffic signal work at the intersection of Route 10/202 and Route 20 and at the intersection of Route 20 and Bank Street.
  12. Perform milling and wedging.
  13. Place pavement.
  14. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
  15. Construct splitter island, pedestrian refugee island, and driveways.
  16. Complete finished grading and place topsoil.
  17. Install traffic signs as shown on Traffic plan sheets.
  18. Install plantings and establish turf as shown on Landscape plans.
  19. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.
- Stage 4
  1. Establish traffic patterns.
  2. Install sedimentation control system.
  3. Clear and grub.
  4. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
  5. Construct temporary sidewalk (refer to STG-04-B).
  6. Construct sidewalks, and install pedestrian push buttons.
  7. Remove temporary sidewalk and existing sidewalk.
  8. Remove existing island and install temporary pavement structure.
  9. Cut bituminous concrete pavement.
  10. Remove existing bituminous concrete pavement and signs.
  11. Remove existing drainage system and install proposed drainage system.
  12. Excavate and form subgrade, place base, and install granite curbing.

13. Perform milling and wedging.
14. Place pavement.
15. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
16. Construct pedestrian refugee island and driveways.
17. Complete finished grading and place topsoil.
18. Install traffic signs as shown on Traffic plan sheets.
19. Install plantings and establish turf as shown on Landscape plans.
20. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.

- Stage 5
  1. Establish traffic patterns.
  2. Install sedimentation control system.
  3. Clear and grub.
  4. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
  5. Construct temporary sidewalk (refer to STG-05-B).
  6. Construct sidewalks, remove existing sidewalk and temporary sidewalk, and install pedestrian push buttons.
  7. Cut bituminous concrete pavement.
  8. Remove existing bituminous concrete pavement and signs.
  9. Remove existing drainage system and install proposed drainage system.
  10. Excavate and form subgrade, place base, and install granite curbing.
  11. Perform milling and wedging.
  12. Place pavement.
  13. Construct driveways.
  14. Complete finished grading and place topsoil.
  15. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
  16. Install plantings and establish turf as shown on Landscape plans.
  17. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.
- Stage 6
  1. Establish traffic patterns.
  2. Install sedimentation control system.
  3. Clear and grub.
  4. Apply temporary stabilization measures in accordance with the temporary stabilization practices.
  5. Cut bituminous concrete pavement.
  6. Remove existing bituminous concrete pavement and signs.
  7. Remove existing drainage system and install proposed drainage system.
  8. Excavate and form subgrade, place base, and install granite curbing.
  9. Perform milling and wedging.
  10. Place pavement.

11. Install linestriping as shown on Traffic plan sheets.
12. Construct splitter island and driveway.
13. Complete finished grading and place topsoil.
14. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
15. Install plantings and establish turf as shown on Landscape plans.
16. Remove sedimentation control system when it has been determined that the disturbed area has been stabilized.

- Stage 7
  1. Establish traffic patterns.
  2. Cut bituminous concrete pavement.
  3. Remove existing bituminous concrete pavement.
  4. Excavate and form subgrade, place base, and install granite curbing.
  5. Perform milling.
  6. Place pavement.
  7. Install traffic signs and pavement markings in newly constructed area as shown on Traffic plan sheets. Only open approach lanes when sufficient lanes are available to receive them.
- Clean all stormwater structures, including catch basins, drop inlets, and pipes of sediment. When the Qualified Inspector determines that all disturbed areas are stabilized, remove the temporary sedimentation control systems. File the "Notice of Termination Form."
- Perform project cleanup, ensure project area is clean and free of debris, and demobilize.

If the construction sequencing activities create an area of disturbance with a total contributing drainage area of between two (2) acres and five (5) acres per discharge point, a temporary sediment trap must be provided and the Contractor must submit to the Engineer a revised SWPCP for review and approval. The SWPCP must include locations of the temporary sedimentation trap per discharge point with a capacity to contain 134 cubic yards per acre of material in accordance with the 2002 CT Erosion and Sedimentation Guidelines (2002 Guidelines). The Contractor shall provide an inspection and maintenance plan for the temporary sedimentation trap as part of the amended SWPCP.

If the areas of disturbance with a total contributing drainage area of more than five (5) acres per discharge point, a temporary engineered sedimentation basin must be provided, and the Contractor must submit to the Engineer a revised SWPCP for review and approval. The SWPCP must include locations of the temporary engineered sedimentation basin designed and installed in accordance with the 2002 Guidelines. The Contractor shall provide an inspection and maintenance plan or the engineered sedimentation basin as part for the amended SWPCP.

The suggested sequence of construction will not create an area of disturbance greater than two (2) acres per discharge point.

3. Control Measures

Control measures taken on this project include sedimentation control systems at the toe of slopes, catch basin sediment filters, erosion control matting type D on slopes steeper than 2H:1V, sweeping for dust control, water for dust control, and turf establishment.

Erosion and Sedimentation Controls

The Department of Transportation (Department) will have a qualified inspector assigned to the project to oversee the Contractor's operations to ensure compliance with the provisions of the Contract. Further Department oversight is provided by the District 4 Environmental Coordinator and the Office of Environmental Planning.
The following timelines will be followed for the proposed construction activities:

- The Contractor shall stabilize disturbed areas with temporary or permanent measures as quickly as possible after the land is disturbed. Requirements for soil stabilization are detailed in Form 818 Section 1.10, Environmental Compliance.

- Areas that remain disturbed but inactive for at least 14 days shall receive temporary seeding or soil protection within seven (7) days.

- Areas that will be disturbed past the planting season will be covered with a long-term, non-vegetative stabilization method that will provide protection through the winter.

- If construction activities are completed to final grade, permanent seeding shall take place within seven (7) days.

Department of Transportation projects are required to have Preconstruction Meetings with the Contractor. The Contractor is required to review and understand the Contract Plans and Specifications and to develop an E&S Plan for review and approval by the Engineer. In the review of the Contractor's E&S plan at all disturbed locations for compliance with the Stormwater Permit requirements for a double row of sediment control barriers.

Double Row of Erosion and Sediment Control Barriers

- A double row of sediment control barrier shall be utilized between any disturbed area and downgradient wetland or watercourse within 50 feet, unless there would be an adverse impact to adjacent wetlands/watercourses due to installation of a double row (i.e. would result in larger wetland/watercourse impact.)
- Additional erosion control barriers (double row of SCS) may also be required within the project area. Factors to be reviewed by the Engineer include but are not limited to: the contributing disturbed area, drainage area, slope, length of slope, and flow conditions to maintain sheet flow. If determined necessary, the Engineer will direct the Contractor to install and maintain additional rows of erosion control barrier (or equivalent).

Soil Stabilization and Protection

Within seven (7) days of establishing the final grade, permanent seeding shall take place in order to stabilize the slope. If disturbed areas are going to remain inactive for at least 30 days, temporary seeding and temporary soil stabilization measures shall be applied. Erosion control matting shall be applied on slopes steeper than 2H:1V. Sedimentation control systems shall be placed at the toe of slopes in order to contain sediment erosion.

Soil stockpiles shall not obstruct the natural site drainage. Stockpiles shall not be located near wetlands and/or water courses. Disturbance of vegetation should be minimized to the extent practical. The side slopes of all stockpiles shall not exceed 2H:1V and sediment control systems shall be provided at the toe of slopes in order to contain eroding sediments and prevent off-site sediment damage. Stockpiles that are to remain in place for longer than thirty (30) days shall be stabilized with temporary seeding.

Temporary Stabilization Practices

- Erosion Control Matting: On slopes steeper than 2H:1V erosion control matting shall be used to stabilize the topsoil or as necessary and directed by the Engineer.

- Sedimentation Control System (SCS): SCS shall be placed at the toe of the slope or as directed by the Engineer

- Dust Control: Routine sweeping and application of dust suppression agents, including but not limited to, water and calcium chloride, over exposed subbase shall be completed for dust control. Additional measures may be necessary to minimize dust within the project limits and within staging and stockpile areas.

- Temporary Seeding: On soils to be exposed for a period greater than 1 month but less than 1-year, temporary seeding shall be used to temporarily stabilize the soil until permanent stabilization is to be established.

- Catch Basin Inlet Protection: Catch basin inlet protection shall be used to reduce the amount of sediment entering the storm drainage system during construction.

Stabilization practices shall be implemented after completion, as final grades are reached, within seven (7) days.

Temporary seeding shall be spread over any disturbed areas which will remain inactive for at least 30 days. Areas to remain disturbed through winter shall be protected with non-vegetative stabilization measures. The Contractor must provide an Erosion and Sedimentation Control plan for each winter season during construction operations.

The Contractor may use other controls in the project as necessary if they conform to the 2002 Guidelines and are approved by the Engineer. The Contractor will be required to provide the necessary details for any erosion controls not specifically called for on the project plans.

During construction, all areas disturbed by the construction activity that have not been stabilized, structural control measures, and locations where vehicles enter or exit the site shall be inspected at least once a week and within 24 hours of the end of a storm that generates a discharge. For storms that end on a weekend, holiday, or other time in which normal working hours will not commence within 24 hours, an inspection is required within 24 hours following any storm in which 0.5 inches or greater of rain occurs. For lesser storms, inspection shall occur immediately upon the start of subsequent normal working hours.

Permanent Stabilization Practices

During construction, the following methods of permanent stabilization shall be installed:

- Topsoiling: In conjunction with permanent seeding, once final grades have been established, topsoil shall be applied to provide a suitable growth medium for vegetation.

- Permanent Seeding: Once soils have been brought to final grade; permanent seeding shall be used to stabilize the soil with a vegetative cover**.** Disturbed areas below the wetland limit shall be seeded with a wetland seed mix and/or above the wetland limit shall be seeded with a conservation seed mix.

- Landscaping: Wood chip mulch shall be placed around the plants. Plantings (trees, shrubs etc.) may be planted along with the permanent seeding.

All new embankments disturbed by construction and unpaved areas that are graded or disturbed by construction will receive erosion control matting, topsoil and/or turf establishment. The Contractor may use other permanent stabilization practices approved by the Engineer and conforming to 2002 Guidelines.

Install protective fencing, prune roots, install root barriers, and furnish and place compost as shown on the Landscape plans.

Structural Measures

Riprap outlet protection shall be used at the proposed outlet PO1 to decrease velocity and the potential for erosion.

Maintenance

All construction activities and related activities shall conform to the requirements of Section 1.10 "Environmental Compliance" of the Department's Standard Specifications, Form 818. In general, all construction activities shall proceed in such a manner so as not to pollute any wetlands, watercourses, water body, and conduit carrying stormwater. The Contractor shall limit, in so far

as possible, the surface area of earthen materials exposed by construction activity and immediately provide temporary and permanent pollution control to prevent soil erosion and contamination on the site. Water pollution control provisions and best management practices per Section 1.10, Environmental Compliance of the Standard Specifications shall be administered during construction. Control measures shall be inspected and maintained in accordance with the 2002 Guidelines and as directed by the Engineer.

4. Dewatering Wastewaters

Dewatering Guidelines

It is not anticipated that this project will require dewatering. If dewatering is necessary, pumps used shall not be allowed to discharge directly into a wetland, watercourse, or stormwater drainage system. Prior to any dewatering, the Contractor must submit to the Engineer a written proposal for specific methods and devices to be used, and must obtain the Engineer's written approval of such methods and devices, including, but not limited to, the pumping of water into a temporary sedimentation basin, providing surge protection at the inlet or outlet of pumps, floating the intake of a pump, or any other method for minimizing and retaining the suspended solids. If the Engineer determines that a pumping operation is causing turbidity problems, the Contractor shall halt said operation until a means of controlling the turbidity is submitted by the Contractor in writing to the Engineer, approved in writing by the Engineer and implemented by the Contractor. No discharge of dewatering wastewater shall contain or cause a visible oil sheen, floating solids or foaming in the receiving water. If required, all activities are to be performed in compliance with the Department's Form 818.

5. Post-Construction Stormwater Management

- MS4 Measures - Drywell

Post-construction Guidelines

After the project is complete, the Department will perform the following maintenance and restorative measures:

- Litter/debris and sweepings will be removed from the site regularly.
- Mowing and maintenance of the turf areas and vegetated areas will occur as needed.
- Riprap outlet protection will be inspected as needed.
- Stormwater drainage system will be cleaned of sediment/debris as directed by the District Drainage Engineer.

Post Construction Performance Standards

Redevelopment:

Pre Construction Effective Impervious Cover = 5.09 ac

Post Construction Effective Impervious Cover = 5.96 ac

Change In Impervious Cover = 0.87 ac

Water Quality Volume Goal:

$$\frac{5.09\ ac \rightarrow pre-construction\ impervious}{8.60\ ac \rightarrow total\ site} = 59\%\ \text{effective impervious cover}$$

59% > 40% → ½ Water Quality Volume retention design goal

½ Water Quality Volume:

I = Post-construction impervious area = 5.96 ac = 69%
Total site area 8.60 ac

Area (A) =	8.60	acres
Design Precipitation (P) =	1	inch
% Post-Construction Impervious Cover (I) =	69	
Volumetric Runoff Coefficient (R) =	0.671	= 0.05+0.009(I)

Impervious Surfaces:

- Bituminous concrete roadway and curbing
- Concrete sidewalk

$$\frac{1}{2}\boldsymbol{WQV} = \frac{1}{2} \times \frac{(1")(R)(A)}{12} = \frac{1}{2} \times 0.481\ ac \cdot ft = 0.240\ ac \cdot ft = \boldsymbol{10,474\ cu \cdot ft}$$

The retention and treatment goals of this project cannot be met due to hydraulic head limitations, adjacent land uses, utility conflicts, costs, and natural resources. This project site has a limited amount of right of way, which means that there is not a lot of room to incorporate stormwater treatments. Furthermore, the Granby Town Center is included on the National Register Historic District list, so property impacts and property acquisitions were kept to a minimum as to disturb these historic properties as little as possible. Removing curbing was looked at as a possibility to introduce sheet flow. However, this would result in roadway runoff being introduced to residential front yards as well as sidewalks which would not be prudent. The only opportunity to incorporate a stormwater treatment into our drainage design was to propose a drywell (sta. 113+36 rt) within the Town Green. A depressed area is proposed in the northern part of the Town Green between the sidewalk and edge of Route 20. This depressed area will convey stormwater into the drywell which will be installed at the lowest point, and from there the collected water will infiltrate into the ground.

Runoff Reduction and LID Practices:

This project includes a Low Impact Development (LID) measure with the introduction of a drywell in the Town Green. This drywell will disconnect a drainage area in the Town Green that had previously outlet at EO1. Catch basins with two (2) foot sumps are proposed, this will help to reduce the pollutant loads at outlets. A riprap apron will be provided at PO1, which will help to reduce the amount of sediment that gets transported into East Branch Salmon Brook River. The provided USDA Web Soil survey shows that all the soil within the project site is rated as well drained.

Suspended Solids and Floatables Removal:

Refer to the post-construction Guidelines section of this document for post-construction maintenance and restorative measures. The General Permit suggests a goal of 80 percent removal of total suspended solids be used in design of stormwater management measures. This goal has been kept in mind in the design of stormwater and erosion control practices for the project. For example, two (2) foot sumps have been proposed in catch basins to remove initial suspended solids, and a drywell has been proposed to allow for infiltration of a drainage area that had previously outlet at EO1. The effectiveness of many of the practices utilized is not easily quantified. Most measures are effective for small storms or at the beginning of storm events. Effectiveness varies with soil types, pollutant, and storm intensity/ duration. Certainly, in optimal conditions, methods may attain and even exceed the 80% removal goal for total suspended solids. The project Contractor and inspector should also keep these goals in mind when installing, inspecting, and maintaining the proposed practices to prevent stormwater pollution.

WQV Retained By Drywell:

Volume of Depressed Area Around Drywell = 69.4 cu·ft
Volume of Drywell = 60 cu·ft

WQV Retained by Drywell = 129.4 cu·ft

WQV Retained / WQV Goal = 129.4 cu·ft / 12,440 cu·ft = 1.0%

Velocity Dissipation:

A riprap apron is proposed at the drainage outfall PO1 to dissipate the velocity of the water and reduce erosion. The calculations for the sizing of the riprap apron have been provided in Appendix B.

6. Other Controls

Waste Disposal

Construction site waste shall be properly managed and disposed of during the entire construction period. Additionally,

- A waste collection area will be designated. The selected area will minimize truck travel through the site and will not drain directly to the adjacent wetlands.
- Waste collection shall be scheduled regularly to prevent the containers from overfilling.
- Spills shall be cleaned up immediately.
- Defective containers that may cause leaks or spills will be identified through regular inspection. Any found to be defective will be repaired or replaced immediately.
- Any stockpiling of materials should be confined to the designated area as approved by the engineer.

Washout Areas

Washout of applicators, containers, vehicles, and equipment for concrete shall be conducted in a designated washout area. No surface discharge of washout wastewaters from the area will be allowed. All concrete wash water will be directed into a container or pit such that no overflows can occur. Washout shall be conducted in an entirely self-contained system and will be clearly designed and flagged or signed where necessary. The washout area shall be located outside of any buffers and at least 50 feet from any stream, wetland or other sensitive water or natural resources as determined or designated by the Department's Office of Environmental Planning or the project engineer. A detail for washout areas has been provided in the plans.

Washout Area(s) will be site located by the Contractor, approved by the engineer and the SWPCP revised as appropriate. The "Concrete Washout Area" shall be constructed as shown in the detail included in the highway plans. The designated area shall be designed and maintained such that no overflows can occur during rainfall or after snowmelt.

Dust Control (Form 818 - Sections 9.39 and 9.43)

For construction activities which cause airborne particulates, wet dust suppression shall be utilized. Construction site dust will be controlled by sprinkling the ground surface with water until it is moist on an as-needed basis. The volume of water sprayed shall be such that it suppresses dust yet also prevents the runoff of water.

Post-Construction

Upon completion of construction activities and stabilization of the site, all post-construction stormwater structures, including catch basins, drop inlets, and pipes shall be cleaned of construction sediment and any remaining silt fence shall be removed prior to acceptance of the project by the Department. Sediment shall be properly disposed of in accordance with all applicable laws, regulations, and guidelines.

Maintaining and Storing Vehicles and Equipment

The Contractor shall take measures to prevent any contamination to wetlands and watercourses while maintaining and storing construction equipment on the site. All chemical and petroleum containers stored on site shall be provided with impermeable containment which will hold at least 110% of the volume of the largest container, or 10% of the total volume of all containers in the area, whichever is larger, without overflow from the containment area. All chemicals and their containers shall be stored under a roofed area except for those stored in containers of 100-gallon capacity or more, in which case double-walled tanks will suffice.

7. Inspections

The qualified inspector conducting inspections shall submit a Construction Site Environmental Inspection Report (CSEIR) for each inspection described below. The District Environmental Coordinator and Engineer are required to electronically submit a CSEIR monthly to DEEP. Each report shall be retained as a part of the SWPCP. The report shall include a statement that, in the judgment of the qualified inspector(s) conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the Plan. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, see 8. Keeping Plans Current.

Plan Implementation Inspections

For each phase of construction, the site shall be inspected at least once within the first 30 days of construction activity and at least three times, with 7 or more days between inspections, within the first 90 days of construction activity to confirm compliance and proper initial implementation of all control measures.

Routine Inspections:

The Permittee will maintain a rain gauge on-site to document rainfall amounts. During construction, all areas disturbed by the construction activity that have not been stabilized, all erosion and sediment control measures, structural control measures, soil stockpile areas, washout areas, and locations where vehicles enter or exit the site shall be inspected for evidence of or the potential for pollutant entering the drainage systems and impacts to the receiving waters at least every seven (7) calendar days and within 24 hours of the end of a storm event that is 0.1 inches or greater.

For storms that end on a weekend, holiday, or other time in which normal working hours will not commence within 24 hours, an inspection is required within 24 hours following any storm in which 0.5 inches or greater of rain occurs. For lesser storms, inspection shall occur immediately upon the start of subsequent normal working hours.

Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least weekly until final stabilization has been achieved.

Qualified inspectors provided by the Department's District 4 Office shall conduct inspections. All information is to be included in the CSEIR form.

The following items shall be inspected as described below:

Item	Procedure
Sedimentation Control System (SCS)	The SCS shall be inspected to ensure that the fence line is intact with no breaks or tears. The fence shall be firmly anchored to the ground. Areas where the fence is excessively sagging or where support posts are broken or uprooted shall be noted. Depth of sediment behind the fence shall be noted.
Concrete Washout Area	Containers or pits shall be inspected at least once a week to ensure structural integrity, adequate holding capacity and will be repaired prior to future use if leaks are present. The contractor shall remove hardened concrete waste when it accumulates to a height of ½ of the container or pit or as necessary to avoid overflows. All concrete waste shall be disposed of in a manner consistent with all applicable laws, regulations, and guidelines.
Catch Basin Protection	Protective measures shall be inspected to ensure that sediment is not entering the catch basins. Catch basin sumps shall be monitored for sediment deposition. Hay bales shall be inspected to ensure they have not clogged.

Dust Control	Measures shall be taken for the purpose of allaying (diminishing) dust conditions. Measures may include the use of sweeping equipment and/or the application of water or calcium chloride.
General	Construction areas and the perimeter of the site shall be inspected for any evidence of debris that may blow or wash off site or that has blown or washed off site. Construction areas shall be inspected for any spills or unsafe storage of materials that could pollute off site waters.

Post-Construction Inspection

Upon completion of construction activities and stabilization of the site, all post-construction stormwater structures, including catch basins, drop inlets, pipes, and the drywell, shall be cleaned of construction sediment or debris and the site inspected to confirm compliance with all post-construction stormwater management requirements. Sediment shall be properly disposed of in accordance with all applicable laws, regulations and guidelines. Any remaining sediment control system(s) SCS shall be removed prior to acceptance of the project by the Department.

Final Stabilization Inspection

Once the site has achieved final stabilization for at least one full growing season (April – October) in the year following the end of construction, the site shall be inspected to confirm stabilization is maintained, and a Notice of Termination Form shall be submitted.

8. Keeping Plans Current

Revisions to Stormwater Pollution Control Plans

The Department shall amend the Plan if the actions required by the Plan fail to prevent pollution or otherwise comply with provisions of the General Permit. The Plan shall also be amended whenever there is a change in contractors or sub-contractors at the site, or a change in design, construction, operation, or maintenance at the site which has not otherwise been addressed in the plan.

If the results of the inspections require modifications to the Stormwater Pollution Control Plan, the plans shall be revised as soon as practicable after the inspection. Such modifications shall provide for a timely implementation of any changes to non-engineered controls on the site within 24 hours and implementation of any changes to the plan within 3 (three) calendar days following the inspection. For Engineered measures, corrective actions shall be implemented on site within

7 (seven) days and incorporated into a revised Plan within 10 (ten) days of the date of inspection.

In no event shall the requirements to keep the Plan current or update a Plan, relieve the permittee and their contactor(s) of the responsibility to properly implement any actions required to protect the waters of the State and to comply with all conditions of the permit.

9. Contractors

General

This section shall identify all Contractors and Subcontractors who will perform on site actions which may reasonably be expected to cause or have the potential to cause pollution of the waters of the State.

Certification Statement

All contractors and subcontractors must sign the attached statement. All certification will be included in the Stormwater Pollution Control Plan.

State Project No. 0055-0142

Major Intersection Improvements
US 202/Route 10 At Route 20 and Route 189
Granby, CT

"I certify under penalty of law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as Contractor on the project, I am covered by this General Permit, and must comply with the terms and conditions of this permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for this project."

GENERAL CONTRACTOR

Signed:_____ Date:_____

Title:_____

Firm:_____ Telephone:_____

Address:_____

_____

_____

SUBCONTRACTOR

Signed:_____ Date:_____

Title:_____

Firm:_____ Telephone:_____

Address:_____

_____

_____

General:

This Stormwater Pollution Control Plan (SPCP) is prepared to comply with the requirements for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. Also to be considered part of the SPCP are the proposed construction plans, special provisions, and the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 818) including supplements thereto and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and 2004 Stormwater Quality Manual.

List of applicable Figures / Plans:

Appendix A - Figures

Site Drainage Patterns	A-01
Soil Maps	A-02 – A-46

Appendix B – Drainage Calculations

Proposed System 1 Velocity Dissipation	B-01
Dry Well Water Quality Computations	B-02

Appendix C – Plan Sheets

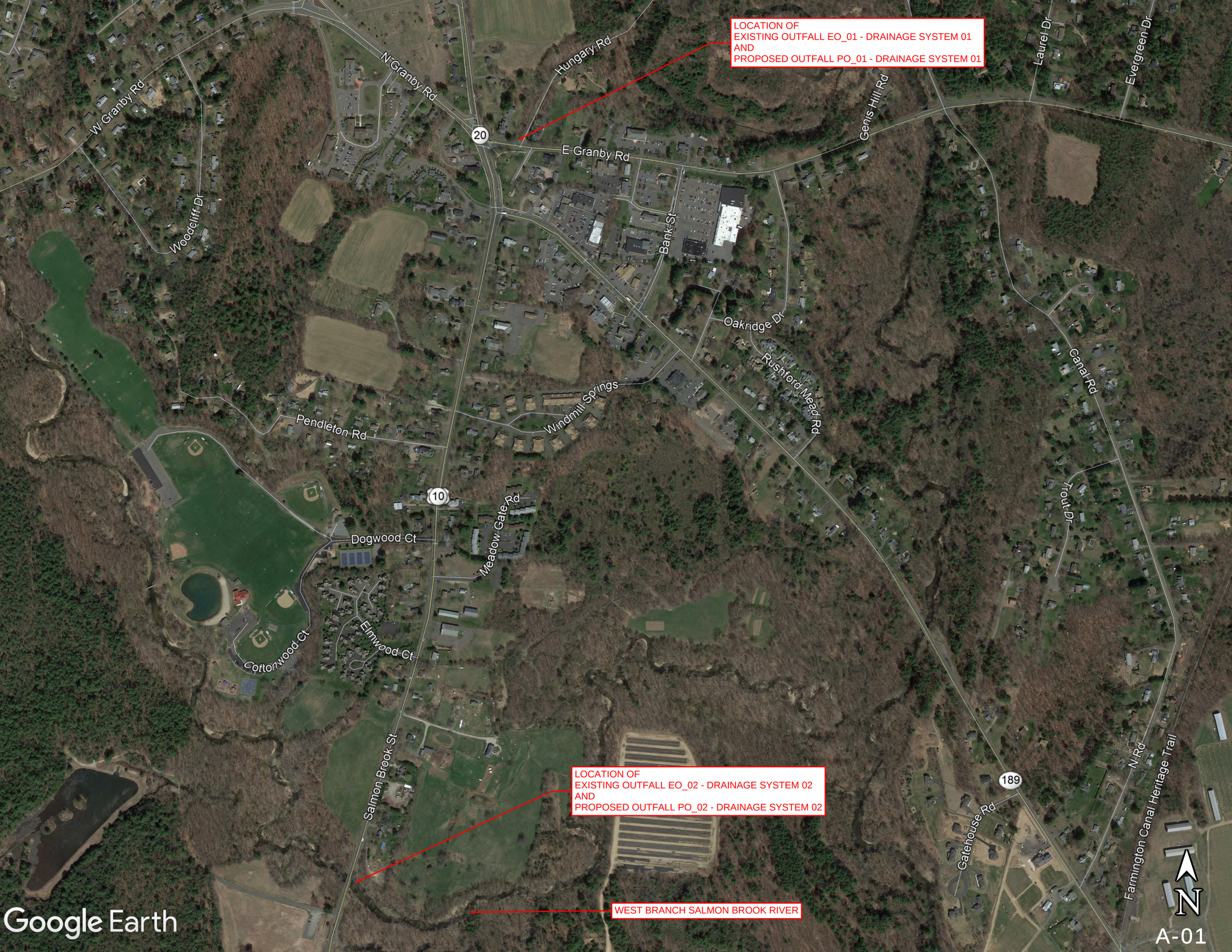
Highways Construction Plans	C-01 – C-05
Highways Drainage, Water, Gas and Sewer Plans	C-06 – C-11
Highways Stage Construction Plans	C-12 – C-18
Highways Miscellaneous Detail Sheet	C-19 – C-21
Landscape Design Plan	C-22 – C-26

Appendix D – CTDOT MS4 MEP Worksheet D-01 – D-02

Appendix E – Construction Site Environmental Inspection Report (CSEIR) E-01

Appendix F – Notice of Termination Form F-01

Appendix A – Figures


LOCATION OF
EXISTING OUTFALL EO_01 - DRAINAGE SYSTEM 01
AND
PROPOSED OUTFALL PO_01 - DRAINAGE SYSTEM 01
LOCATION OF
EXISTING OUTFALL EO_02 - DRAINAGE SYSTEM 02
AND
PROPOSED OUTFALL PO_02 - DRAINAGE SYSTEM 02
WEST BRANCH SALMON BROOK RIVER
N Granby Rd
W Granby Rd
Hungary Rd
E Granby Rd
Genis Hill Rd
Laurel Dr
Evergreen Dr
Woodcliff Dr
Bank St
Oakridge Dr
Rushford Mead Rd
Canal Rd
Windmill Springs
Pendleton Rd
Dogwood Ct
Meadow Gate Rd
Trout Dr
Cottonwood Ct
Elmwood Ct
Salmon Brook St
Gatehouse Rd
N Rd
Farmington Canal Heritage Trail
20
10
189
Google Earth
N
A-01

United States Department of Agriculture

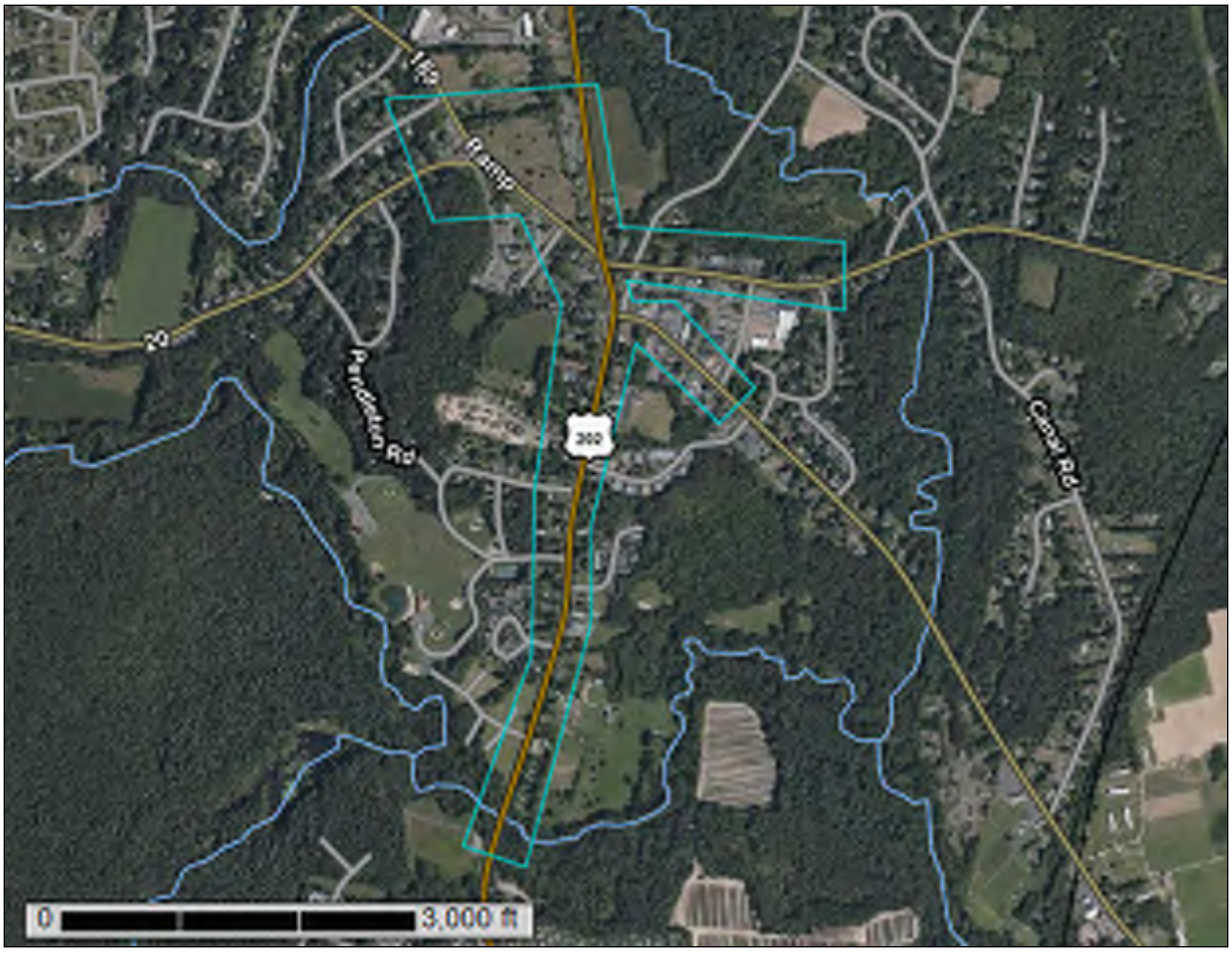
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

Project No. 0055-0142 Soil Report



January 25, 2021

A-02

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

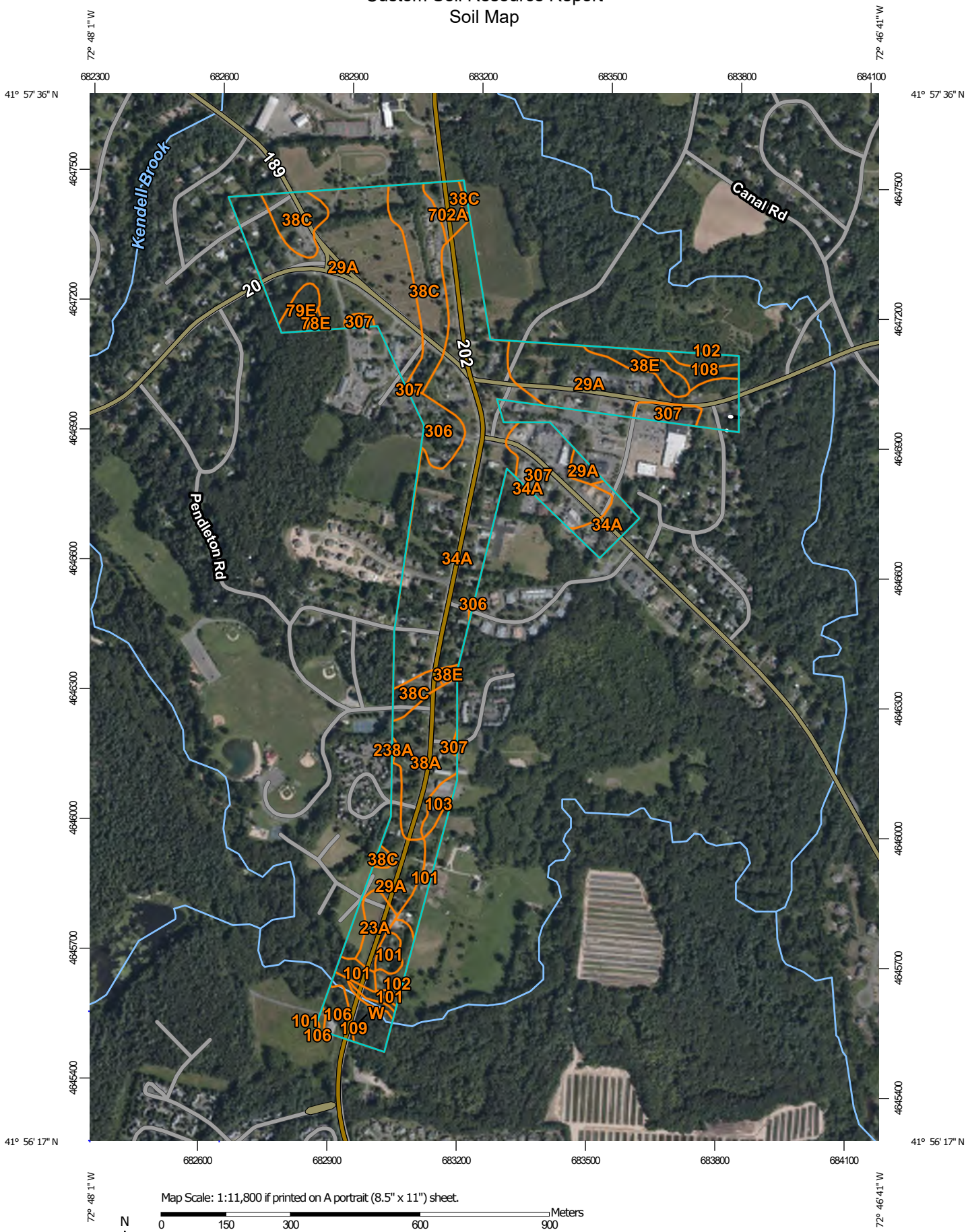
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


72° 48' 1" W
72° 46' 41" W
41° 57' 36" N
41° 56' 17" N
682300
682600
682900
683200
683500
683800
684100
4647500
4647200
4646900
4646600
4646300
4646000
4645700
4645400
Kendell Brook
189
Canal Rd
20
202
Pendleton Rd
38C
702A
29A
38C
79E
78E
307
38E
102
108
29A
307
306
307
29A
34A
34A
34A
306
38E
38C
238A
38A
307
103
38C
29A
101
23A
101
101
102
101
101
106
W
106
109
Map Scale: 1:11,800 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
150
300
600
900
Feet
0
500
1000
2000
3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
23A	Sudbury sandy loam, 0 to 5 percent slopes	2.3	1.6%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	44.5	30.5%
34A	Merrimac fine sandy loam, 0 to 3 percent slopes	40.8	28.0%
38A	Hinckley loamy sand, 0 to 3 percent slopes	8.6	5.9%
38C	Hinckley loamy sand, 3 to 15 percent slopes	14.5	10.0%
38E	Hinckley loamy sand, 15 to 45 percent slopes	2.5	1.7%
78E	Holyoke-Rock outcrop complex, 15 to 45 percent slopes	0.3	0.2%
79E	Rock outcrop-Holyoke complex, 3 to 45 percent slopes	1.6	1.1%
101	Occum fine sandy loam	4.7	3.2%
102	Pootatuck fine sandy loam	2.7	1.8%
103	Rippowam fine sandy loam	1.2	0.8%
106	Winooski silt loam	1.6	1.1%
108	Saco silt loam	1.7	1.2%
109	Fluvaquents-Udifluvents complex, frequently flooded	3.0	2.1%
238A	Hinckley-Urban land complex, 0 to 3 percent slopes	0.1	0.1%
306	Udorthents-Urban land complex	3.2	2.2%
307	Urban land	10.0	6.9%
702A	Tisbury silt loam, 0 to 3 percent slopes	2.1	1.4%
W	Water	0.4	0.3%
Totals for Area of Interest		**145.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic

class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

23A—Sudbury sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 9lkv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sudbury and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sudbury

Setting

Landform: Terraces, outwash plains
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 5 inches: sandy loam
Bw1 - 5 to 17 inches: gravelly sandy loam
Bw2 - 17 to 25 inches: sandy loam
2C - 25 to 60 inches: stratified gravel to sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Agawam

Percent of map unit: 5 percent

Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Merrimac
Percent of map unit: 5 percent
Landform: Kames, outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ninigret
Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Tisbury
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Walpole
Percent of map unit: 2 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

29A—Agawam fine sandy loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2tyqw
Elevation: 0 to 1,040 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Agawam and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Agawam

Setting

Landform: Outwash plains, kame terraces, kames, moraines, outwash terraces
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, riser, rise, dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam
Bw1 - 11 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C1 - 26 to 39 inches: loamy fine sand
2C2 - 39 to 55 inches: loamy fine sand
2C3 - 55 to 65 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Ninigret

Percent of map unit: 5 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Windsor

Percent of map unit: 4 percent
Landform: Outwash plains, outwash terraces, deltas, dunes
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Outwash plains, depressions, outwash terraces, depressions, deltas
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Hinckley

Percent of map unit: 3 percent
Landform: Outwash plains, eskers, kames, deltas
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

34A—Merrimac fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tyqr
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Kames, eskers, moraines, outwash terraces, outwash plains
Landform position (two-dimensional): Backslope, footslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand

2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Kames, deltas, outwash plains, eskers
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Moraines, outwash plains, outwash terraces, stream terraces, kames, eskers
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 2 percent
Landform: Deltas, dunes, outwash plains, outwash terraces

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser, tread
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

38A—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7
Elevation: 0 to 1,420 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, kame terraces, outwash plains, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Kame terraces, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash terraces, kame terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear, convex
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

38C—Hinckley loamy sand, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svmb
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Moraines, outwash terraces, outwash deltas, kame terraces, outwash plains, kames, eskers
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Linear, convex, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash plains, kames, eskers, moraines, outwash terraces
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope, summit
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Eskers, moraines, kame terraces, outwash plains, outwash terraces, outwash deltas, kames
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Crest, head slope, nose slope, side slope, riser, tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Concave, linear, convex
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Outwash deltas, kame terraces, outwash plains, kames, eskers, moraines, outwash terraces
Landform position (two-dimensional): Footslope, backslope, shoulder, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Outwash plains, moraines, outwash deltas, outwash terraces, kame terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

38E—Hinckley loamy sand, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2svmj
Elevation: 0 to 1,280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kames, eskers, kame terraces, outwash plains, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Kames, eskers, moraines, outwash terraces, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent

Landform: Outwash deltas, moraines, kames, eskers, kame terraces, outwash plains, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, linear, convex
Across-slope shape: Linear, concave, convex
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kames, moraines, outwash terraces, outwash deltas, kame terraces, eskers, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Eskers, kames, moraines, outwash terraces, kame terraces, outwash plains, outwash deltas
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

78E—Holyoke-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 9lqw
Elevation: 0 to 1,200 feet
Mean annual precipitation: 40 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Holyoke and similar soils: 50 percent
Rock outcrop: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holyoke

Setting

Landform: Hills, ridges

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy eolian deposits over melt-out till derived from basalt and/or sandstone and shale

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: silt loam
Bw1 - 3 to 8 inches: silt loam
Bw2 - 8 to 18 inches: gravelly silt loam
2R - 18 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F145XY011CT - Well Drained Shallow Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Menlo

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Yalesville

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Wethersfield

Percent of map unit: 5 percent
Landform: Drumlins, hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Cheshire

Percent of map unit: 5 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, very shallow soils

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, less sloping

Percent of map unit: 2 percent
Hydric soil rating: No

79E—Rock outcrop-Holyoke complex, 3 to 45 percent slopes

Map Unit Setting

National map unit symbol: 9lqx
Elevation: 0 to 1,200 feet
Mean annual precipitation: 40 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 55 percent
Holyoke and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Ridges, hills

Properties and qualities

Slope: 3 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Holyoke

Setting

Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy eolian deposits over melt-out till derived from basalt and/or sandstone and shale

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: silt loam
Bw1 - 3 to 8 inches: silt loam
Bw2 - 8 to 18 inches: gravelly silt loam
2R - 18 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F145XY011CT - Well Drained Shallow Till Uplands
Hydric soil rating: No

Minor Components

Yalesville

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Wethersfield

Percent of map unit: 5 percent
Landform: Hills, drumlins
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Cheshire

Percent of map unit: 3 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Menlo

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, very shallow soils

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, steep slopes

Percent of map unit: 2 percent
Hydric soil rating: No

101—Occum fine sandy loam

Map Unit Setting

National map unit symbol: 9ljm
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Occum and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Occum

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: sandy loam
C1 - 28 to 32 inches: stratified very gravelly coarse sand to loamy fine sand

C2 - 32 to 42 inches: stratified very gravelly coarse sand to loamy fine sand
C3 - 42 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 60 to 72 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F144AY010NH - Sandy High Floodplain
Hydric soil rating: No

Minor Components

Suncook

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Pootatuck

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Rippowam

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Agawam

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

102—Pootatuck fine sandy loam

Map Unit Setting

National map unit symbol: 9ljn
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Pootatuck and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pootatuck

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 16 inches: fine sandy loam
Bw2 - 16 to 21 inches: fine sandy loam
Bw3 - 21 to 29 inches: sandy loam
C1 - 29 to 35 inches: stratified very gravelly coarse sand to loamy fine sand
C2 - 35 to 40 inches: stratified very gravelly coarse sand to loamy fine sand
C3 - 40 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144AY012CT - Sandy Low Floodplain
Hydric soil rating: No

Minor Components

Suncook
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Occum
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lim
Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rippowam
Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Saco
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

103—Rippowam fine sandy loam

Map Unit Setting
National map unit symbol: 9ljp
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Rippowam and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rippowam

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium

Typical profile

A - 0 to 5 inches: fine sandy loam
Bg1 - 5 to 12 inches: fine sandy loam
Cg2 - 12 to 19 inches: fine sandy loam
Cg3 - 19 to 24 inches: sandy loam
Cg4 - 24 to 27 inches: sandy loam
Cg5 - 27 to 31 inches: loamy sand
Cg6 - 31 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F144AY014CT - Wet Sandy Low Floodplain
Hydric soil rating: Yes

Minor Components

Suncook

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Occum

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: No

Pootatuck

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Lim

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Saco

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

106—Winooski silt loam

Map Unit Setting

National map unit symbol: 9ljs
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Winooski and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Winooski

Setting

Landform: Flood plains
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Typical profile

Ap - 0 to 12 inches: silt loam
B1 - 12 to 18 inches: silt loam
B2 - 18 to 36 inches: silt loam
C3 - 36 to 52 inches: very fine sandy loam
C4 - 52 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F145XY002MA - Silty Low Floodplain
Hydric soil rating: No

Minor Components

Hadley

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lim

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Bash

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, strongly acid ph
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, sand or gravel substratum
Percent of map unit: 2 percent
Hydric soil rating: No

Saco
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

108—Saco silt loam

Map Unit Setting
National map unit symbol: 9ljv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition
Saco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saco

Setting
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile
A - 0 to 12 inches: silt loam
Cg1 - 12 to 32 inches: silt loam
Cg2 - 32 to 48 inches: silt loam
2Cg3 - 48 to 60 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: About 0 to 6 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Available water capacity: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Ecological site: F144AY016MA - Very Wet Low Floodplain
Hydric soil rating: Yes

Minor Components

Lim

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Winooski

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rippowam

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Hadley

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Bash

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

109—Fluvaquents-Udifluvents complex, frequently flooded

Map Unit Setting

National map unit symbol: 9ljw
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents, frequently flooded, and similar soils: 50 percent
Udifluvents, frequently flooded, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

A - 0 to 4 inches: silt loam
Cg1 - 4 to 14 inches: fine sand
Cg2 - 14 to 21 inches: very fine sand
Ab1 - 21 to 38 inches: silt loam
Ab2 - 38 to 45 inches: fine sandy loam
C'g3 - 45 to 55 inches: sand
A'b3 - 55 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Udifluvents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 2 inches: fine sandy loam
C - 2 to 4 inches: loamy fine sand
Ap - 4 to 12 inches: fine sandy loam
AC - 12 to 18 inches: fine sandy loam
C1 - 18 to 35 inches: loamy sand
C2 - 35 to 38 inches: very gravelly loamy sand
C3 - 38 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 35.99 in/hr)
Depth to water table: About 72 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Riverwash

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Saco

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rippowam

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Pootatuck

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Occum

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

238A—Hinckley-Urban land complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svlz
Elevation: 0 to 740 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 40 percent
Urban land: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

A - 0 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water capacity: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Walpole

Percent of map unit: 5 percent
Landform: Depressions, outwash plains, depressions, deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

307—Urban land

Map Unit Setting

National map unit symbol: 9lmh
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 10 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 10 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

702A—Tisbury silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2y07g
Elevation: 0 to 1,260 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Tisbury and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tisbury

Setting

Landform: Valley trains, outwash plains, deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Typical profile

Ap - 0 to 8 inches: silt loam
Bw1 - 8 to 18 inches: silt loam

Bw2 - 18 to 26 inches: silt loam
2C - 26 to 65 inches: extremely gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 24 to 36 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144AY026CT - Moist Silty Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Moraines, outwash terraces, outwash plains, kames, eskers
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Agawam

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains, kame terraces, kames, moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ninigret

Percent of map unit: 3 percent
Landform: Outwash terraces, kames, moraines, outwash plains, kame terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, convex
Across-slope shape: Concave, convex
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave

Across-slope shape: Concave
Hydric soil rating: Yes

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Appendix B – Drainage Calculations

PROPOSED SYSTEM 1 - Proposed OUTLET PROTECTION - VELOCITY DISSIPATION

Project No.: 55-142
Town: Granby
Route: 10/202, 20/189, and 20

Designed by: Josh McCoy
Checked by: Joe Arsenault
Station:

Date:
Date:

1. Assess the erosion potential at the outlet and other critical site factors

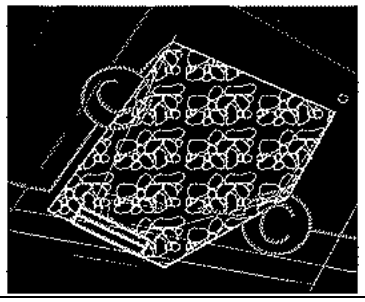
Describe the conditions at the outlet location:

Outlet located upstream from wetlands.
Gradual downward slope to wetlands.
Outlets adjacent to Hungary Road.
Standard concrete endwall.

☑ No well-defined channel

☐ Well-defined channel

Sketch



2. Determine the tailwater (TW) conditions at the outlet

TW depth: 1.69 ft
TW elevation: 206.435 ft
TW computational method: Manning's Equation
Channel bed elevation: N/A
Estimated velocity in channel: N/A

3. Calculate and evaluate the outlet velocity for the design discharge

Design Discharge: 14.86 cfs
Design Frequency: 10 Year Storm
Outlet Pipe Size: 18 in
Type: RCP
Length: 20 ft
Slope: 1.05%
Outlet Invert Elevation: 204.74 ft
Outlet Velocity at design discharge: 8.35 ft/sec
Velocity computational method: Manning's Equation

4. Select the type of outlet protection

☑ Riprap Apron

(See Figures 11-13 & 11-14)

Type B (A,B,C)
Riprap type: Intermediate Riprap
Length (L_a): 22.500 ft
Width (W_1): 4.5 ft
Width (W_2): 13.5 ft
Width-Type C (W_3): N/A

Riprap Thickness: 18 inches
Granular Fill Thickness: 6 inches

☐ Preformed Scour Hole

(See Figure 11-15)

	Type 1	Type 2
d_{50}		
F		
C		
B		
S_P		

Proposed Type:
Riprap Type:
Riprap Thickness: in
Granular Fill Thickness: in

PROPOSED DRY WELL - WATER QUALITY COMPUTATIONS

Project No.: 55-142
Town: Granby
Route: 10/202, 20/189, and 20

Designed by: Josh McCoy Date:
Checked by: Joe Arsenault Date:
Station: 113+36 Rt.

1. Calculate Amount of Earth Cut

EARTH CUT					
STATION (WHOLE NO.)	LENGTH	END AREA	AVERAGE END AREA	VOLUME	VOLUME
	(FT)	(FT2)	(FT2)	(FT3)	(CY)
Depressed Area					
0+00		0.20			
	10		2.43	24.25	
0+10		4.65			
	10		3.23	32.30	
0+20		1.81			
	10		1.10	10.95	
0+30		0.38			
	10		0.19	1.90	
0+40		0.00			

2. Calculate Depressed Area Volume

Depressed Area Volume (FT^3)	=	69.4	FT^3	
Convert (FT^3) to (ACRE*FT)	=	FT^3	÷	43560
Depressed Area Volume (ACRE*FT)	=	**0.002**	ACRE*FT	

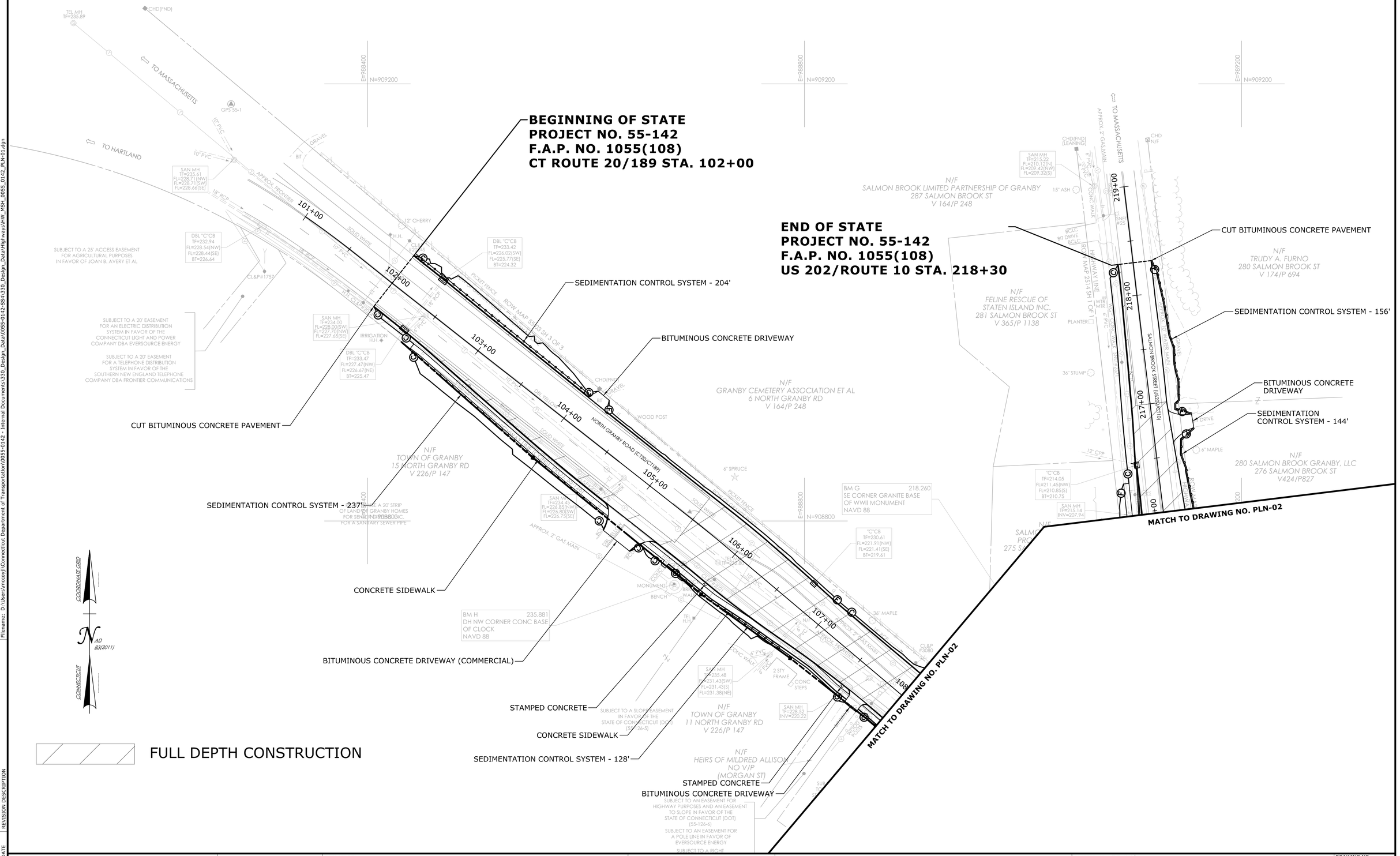
3. Calculate Volume of Both Dry Wells

Volume of Both Dry Wells (FT^3)	=	60	FT^3	
Convert (FT^3) to (ACRE*FT)	=	FT^3	÷	43560
Volume of Both Dry Wells (ACRE*FT)	=	**0.001**	ACRE*FT	

4. Determined Total WQV Retained

	Depressed Area Volume (ACRE*FT)	=	0.002	ACRE*FT
+	Volume of Both Dry Wells (ACRE*FT)	=	0.001	ACRE*FT
	Total WQV Retained (ACRE*Ft)	=	**0.003**	ACRE*FT

Appendix C – Plan Sheets



DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 4/27/2021
Filename: D:\Users\mccoyj\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\HW_MSH_0055_0142_PLN-01.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION PLAN

DRAWING NO. PLN-01
SHEET NO.

C-01

GENERAL NOTES:

1. A DOUBLE ROW OF SEDIMENT CONTROL BARRIER SHALL BE UTILIZED BETWEEN ANY DISTURBED AREA AND DOWNGRADIENT WETLAND OR WATERCOURSE WITHIN 50 FEET, UNLESS THERE WOULD BE AN ADVERSE IMPACT TO ADJACENT WETLANDS/WATERCOURSES DUE TO INSTALLATION OF A DOUBLE ROW (I.E. WOULD RESULT IN LARGER WETLAND/WATERCOURSE IMPACT.)
2. ADDITIONAL EROSION CONTROL BARRIERS (DOUBLE ROW OF SCS) MAY ALSO BE REQUIRED WITHIN THE PROJECT AREA. FACTORS TO BE REVIEWED BY THE ENGINEER INCLUDE BUT ARE NO LIMITED TO: THE CONTRIBUTING DISTURBED AREA, DRAINAGE AREA, SLOPE, LENGTH OF SLOPE, AND FLOW CONDITIONS TO MAINTAIN SHEET FLOW. IF DETERMINED NECESSARY, THE ENGINEER WILL DIRECT THE CONTRACTOR TO INSTALL AND MAINTAIN ADDITIONAL ROWS OF EROSION CONTROL BARRIER (OR EQUIVALENT).

COORDINATE GRID
NAD 83(2011)
CONNECTICUT

MATCH TO DRAWING NO. PLN-01

CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 96'
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 345'
CONCRETE SIDEWALK
CONCRETE SIDEWALK RAMP (TYPE 12) DETECTABLE WARNING STRIP
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 260'
PEDESTRIAN REFUGEE ISLAND (SEE MDS-04 & MDS-06)
CONCRETE SIDEWALK
CONCRETE SIDEWALK RAMP (TYPE 12) DETECTABLE WARNING STRIP
PEDESTRIAN REFUGEE ISLAND (SEE MDS-04 & MDS-06)
CONCRETE SIDEWALK RAMP (TYPE 12) DETECTABLE WARNING STRIP
CUT BITUMINOUS CONCRETE PAVEMENT
SEDIMENTATION CONTROL SYSTEM - 40'
FLUSH SPLITTER ISLAND (SEE MDS-05)
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 72'
CONCRETE SIDEWALK
REMOVE ROCKWALL (SEE MDS-11)
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 76'
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY
RAISED SPLITTER ISLAND (SEE MDS-05 & MDS-06)
CONCRETE SIDEWALK
CONCRETE SIDEWALK RAMP (TYPE 13) DETECTABLE WARNING STRIP
SEDIMENTATION CONTROL SYSTEM - 255'
CONCRETE SIDEWALK RAMP (TYPE 12) DETECTABLE WARNING STRIP
BITUMINOUS CONCRETE DRIVEWAY
STAMPED CONCRETE
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
SEDIMENTATION CONTROL SYSTEM - 168'
CONCRETE SIDEWALK
CONCRETE SIDEWALK RAMP (TYPE 16) DETECTABLE WARNING STRIP
CONCRETE SIDEWALK RAMP (TYPE 16) DETECTABLE WARNING STRIP
CUT BITUMINOUS CONCRETE PAVEMENT
SEDIMENTATION CONTROL SYSTEM - 143'
BITUMINOUS CONCRETE DRIVEWAY
REMOVE FENCE AND INSTALL MAILBOX
SEDIMENTATION CONTROL SYSTEM - 118'
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY
SEDIMENTATION CONTROL SYSTEM - 132'
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY
CONCRETE SIDEWALK
SEDIMENTATION CONTROL SYSTEM - 38'
CONCRETE SIDEWALK RAMP (TYPE 16) DETECTABLE WARNING STRIP

LIMIT OF CONSTRUCTION
STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
HUNGARY ROAD

LIMIT OF CONSTRUCTION
STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
PARK PLACE

MATCH TO DRAWING NO. PLN-03
MATCH TO DRAWING NO. PLN-04

FULL DEPTH CONSTRUCTION

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 5/5/2021
Filename: D:\Users\mccoyj\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41\330_Design_Data\Highways\HW_MSH_0052_0142_PLN-02.dgn

HORIZONTAL SCALE 1"=40' (0, 40', 80')

SIGNATURE/ BLOCK:

APPROVED BY:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

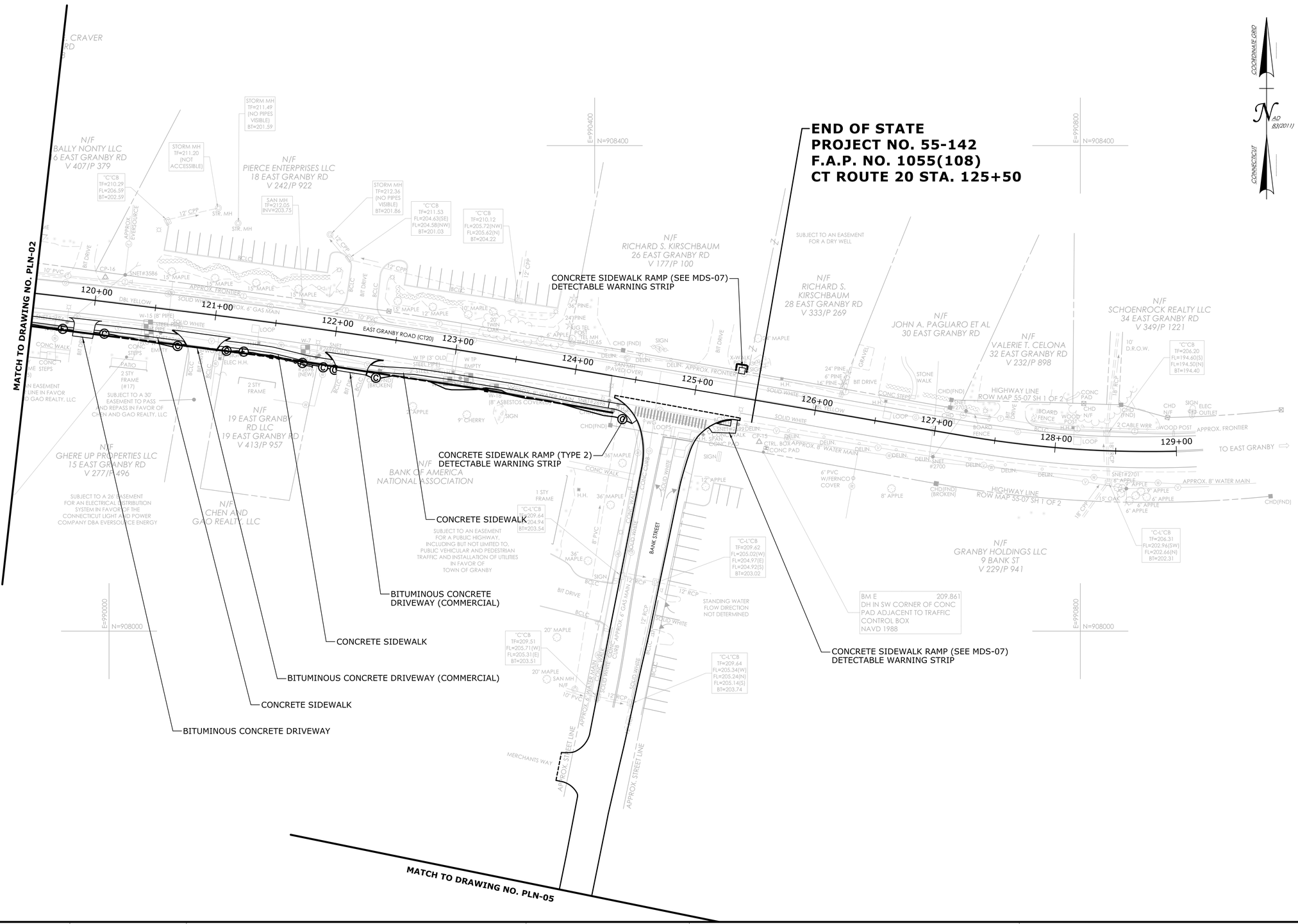
MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION PLAN

DRAWING NO. PLN-02
SHEET NO.

C-02



DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\ITConnecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\HW_MSH_0055_0142_PLN-03.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

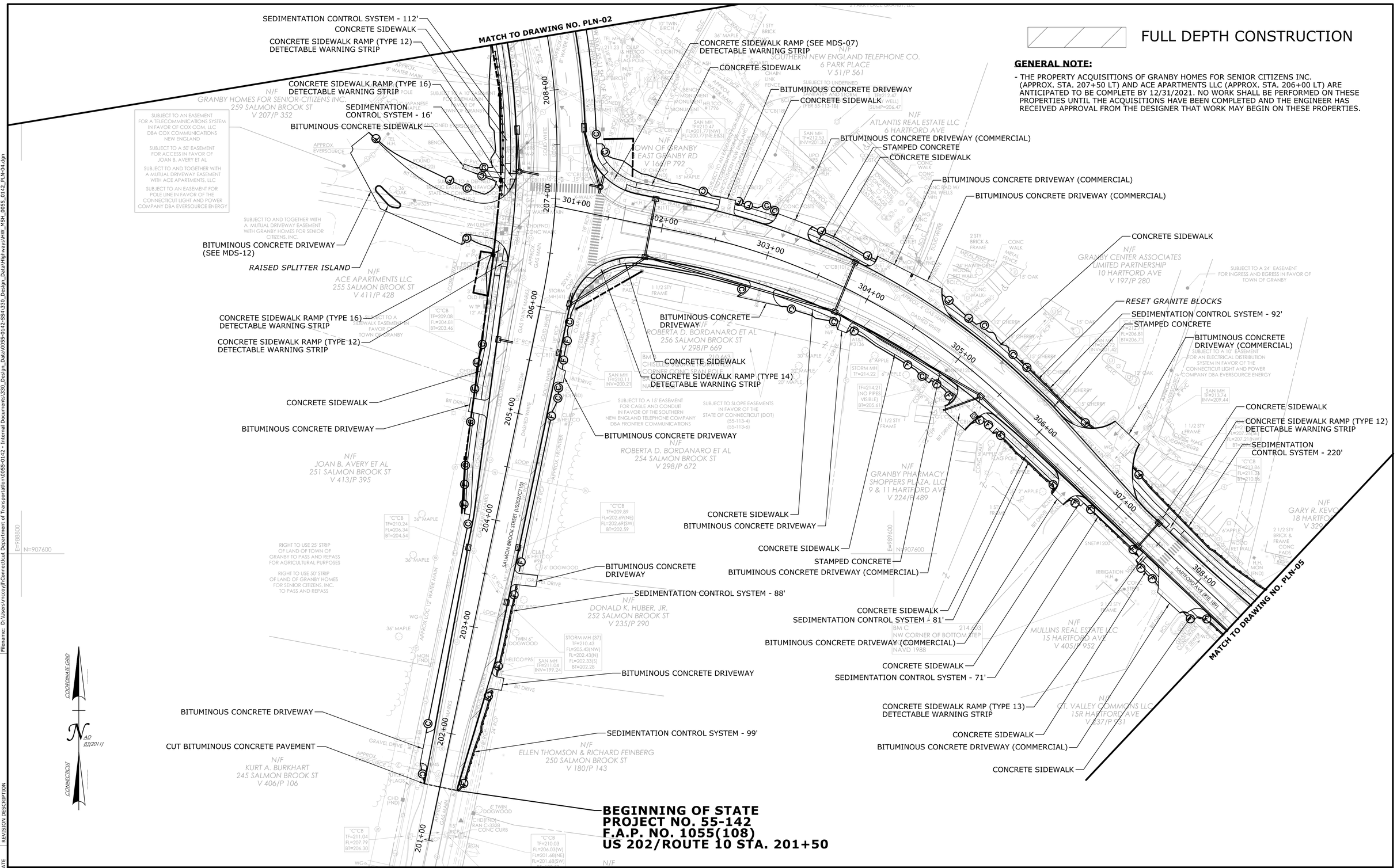
MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION PLAN

DRAWING NO. PLN-03
SHEET NO.

C-03



FULL DEPTH CONSTRUCTION

GENERAL NOTE:

- THE PROPERTY ACQUISITIONS OF GRANBY HOMES FOR SENIOR CITIZENS INC. (APPROX. STA. 207+50 LT) AND ACE APARTMENTS LLC (APPROX. STA. 206+00 LT) ARE ANTICIPATED TO BE COMPLETE BY 12/31/2021. NO WORK SHALL BE PERFORMED ON THESE PROPERTIES UNTIL THE ACQUISITIONS HAVE BEEN COMPLETED AND THE ENGINEER HAS RECEIVED APPROVAL FROM THE DESIGNER THAT WORK MAY BEGIN ON THESE PROPERTIES.

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 4/27/2021
Filename: D:\Users\mccoyj\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\HW_MSH_0055_0142_PLN-04.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

APPROVED BY:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION PLAN
DRAWING NO. PLN-04
SHEET NO.

C-04

FULL DEPTH CONSTRUCTION

MATCH TO DRAWING NO. PLN-03

MATCH TO DRAWING NO. PLN-04

BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
CONCRETE SIDEWALK
STAMPED CONCRETE
SEDIMENTATION CONTROL SYSTEM - 17'
BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
PEDESTRIAN ISLAND (SEE MDS-05 & MDS-06)
CONCRETE SIDEWALK
STAMPED CONCRETE
CONCRETE SIDEWALK RAMP (TYPE 2)
DETECTABLE WARNING STRIP

SEDIMENTATION CONTROL SYSTEM - 59'
CONCRETE SIDEWALK
BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
SEDIMENTATION CONTROL SYSTEM - 27'
BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)
CUT BITUMINOUS CONCRETE PAVEMENT

LIMIT OF PAVING
STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
CT ROUTE 189 STA. 312+50

N 907694.02
E 990353.05

N 907539.43
E 990298.42

COORDINATE GRID
NAD 83(2011)
CONNECTICUT

E=990400 N=907600
E=990800 N=907600
E=990000 N=907200

309+00 310+00 311+00 312+00 313+00

HARTFORD AVE (RTE 189)

N/F 17 HARTFORD AVE LLC 17 HARTFORD AVE V 359/P 397
N/F CUMBERLAND FARMS INC. 19 HARTFORD AVE V 327/P 517
N/F REESG PROPERTIES LLC 26 HARTFORD AVE V 291/P 138
N/F REMARC LLC 28 HARTFORD AVE V 414/P 390
N/F STARDUST DEVELOPMENT LLC 21 HARTFORD AVE V 356/P 122
N/F 25 HARTFORD AVENUE LLC 25 HARTFORD AVE V 337/P 316
N/F 22 HARTFORD AVENUE ASSOCIATES 22 HARTFORD AVE V 389/P 1148
BMR PROPERTIES LLC 20 HARTFORD AVE V 236/P 610

BM D 213.350
DH IN SOUTH QUAD OF CONC SPAN POLE FOOTING
NAVD 1988

SUBJECT TO AND TOGETHER WITH A MUTUAL EASEMENT FOR INGRESS, EGRESS AND PARKING WITH 22 HARTFORD AVENUE ASSOCIATES
SUBJECT TO AND TOGETHER WITH A MUTUAL EASEMENT FOR INGRESS, EGRESS AND PARKING WITH BMR PROPERTIES, LLC
SUBJECT TO AN EASEMENT FOR HIGHWAY PURPOSES IN FAVOR OF TOWN OF GRANBY

BANK STREET
TO EAST GRANBY
HIGHWAY LINE ROW MAP 318 SH 2 OF 2
ROW MAP 318 SH 2 OF 2 HIGHWAY LINE

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\f\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\HW_MSH_0055_0142_PLN-05.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION PLAN
DRAWING NO. PLN-05
SHEET NO.

C-05

BEGINNING OF STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
CT ROUTE 20/189 STA. 102+00

END OF STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
US 202/ROUTE 10 STA. 218+30

RESET TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2
TYPE 'C' CATCH BASIN TOP DOUBLE GRATE TYPE 2
T.F. = 233.30

RESET TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2
TYPE 'C' CATCH BASIN TOP DOUBLE GRATE TYPE 2
T.F. = 233.28

RESET MANHOLE (SANITARY SEWER)

RESET MANHOLE (SANITARY SEWER)

RESET MANHOLE BY OTHERS (TELEPHONE)

RESET MANHOLE (SANITARY SEWER)

ADJUST GATE BOX (GAS)

4' - 12" POLYVINYL CHLORIDE PIPE - 0' - 10' DEEP

RESET MANHOLE (SANITARY SEWER)

TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 214.68
INV. (NW) = 211.45
INV. (S) = 210.85

RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 231.38

MATCH TO DRAWING NO. DRG-02

MATCH TO DRAWING NO. DRG-02

GENERAL NOTES:

1. CATCH BASIN SEDIMENT FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS WITHIN THE PROJECT LIMITS.
2. UPON COMPLETION OF ALL EXCAVATION ACTIVITIES, ALL DRAINAGE STRUCTURES AND PIPES WITHIN THE PROJECT LIMITS AND ALONG ROUTE 10/202 FROM THE PROJECT LIMITS TO THE OUTLET AT WEST BRANCH SALMON BROOK RIVER SHALL BE CLEANED.

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS\330_Design_Data\Highways\HW_MSH_0055_0142_DRG-01.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: DRAINAGE, WATER, GAS, AND SEWER PLAN

DRAWING NO. DRG-01
SHEET NO.

C-06

MATCH TO DRAWING NO. DRG-01

MATCH TO DRAWING NO. DRG-01

260' - 15" R.C. PIPE - 0' - 10' DEEP
RESET MANHOLE (SANITARY SEWER)
ADJUST GATE BOX (GAS)
ADJUST GATE BOX (WATER)
RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 219.71

RESET MANHOLE (SANITARY SEWER)
28' - 15" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2 - 0' - 10' DEEP
T.F. = 219.65
INV. = 215.39
8' - 18" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 215.27
INV. (NW) = 209.81
INV. (SE) = 209.72
REMOVE EXISTING CATCH BASIN
32' - 18" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING PIPE (21')
RESET MANHOLE
MANHOLE FRAME AND COVER
T.F. = 214.23
INV. (N) = MATCH EXISTING
RESET MANHOLE (SANITARY SEWER)
REMOVE EXISTING CATCH BASIN
REMOVE EXISTING PIPE (55')
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 213.12
INV. = 207.65
60' - 12" R.C. PIPE - 0' - 10' DEEP
RESET MANHOLE
MANHOLE FRAME AND COVER
T.F. = 212.42
INV. (W) = MATCH EXISTING
71' - REMOVE EXISTING PIPE - 0' - 10' DEEP
RESET MANHOLE BY OTHERS (TELEPHONE)
ADJUST GATE BOX (WATER)
ABANDON DRAINAGE STRUCTURE
ADJUST GATE BOX (GAS)
MANHOLE - 0' - 10' DEEP
T.F. = 210.60
INV. (SW) = 206.43
INV. (E) = 206.34
RESET MANHOLE (SANITARY SEWER)
52' - 15" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.97
INV. = 207.25
(CATCH BASIN TO BE CAST IN PLACE)
64' - 12" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 210.13
INV. (W) = 206.93
INV. (S) = 206.77
INV. (NE) = 206.69
40' - 12" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.76
INV. = 206.97
(CATCH BASIN TO BE CAST IN PLACE)
ADJUST GATE BOX (GAS)

ADJUST GATE BOX (WATER)
132' - 12" R.C. PIPE - 0' - 10' DEEP
133' - REMOVE EXISTING PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2 - 0' - 10' DEEP
T.F. = 213.90
INV. (N) = 210.14
INV. (E) = 209.97
INV. (S) = 209.89
REMOVE EXISTING CATCH BASIN
REMOVE EXISTING PIPE (32')
56' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 213.96
INV. = 210.29
164' - REMOVE EXISTING PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 213.22
INV. (N) = 209.04
REMOVE EXISTING PIPE (85')
104' - 15" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2 - 0' - 10' DEEP
T.F. = 212.61
INV. (N) = 208.52
INV. (SE) = 208.44
72' - 15" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 211.51
INV. (NW) = 207.72
INV. (SW) = 207.47
24' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN
RESET MANHOLE
MANHOLE FRAME AND COVER
T.F. = 211.82
ABANDON EXISTING PIPE
ABANDON DRAINAGE STRUCTURE
REMOVE EXISTING MANHOLE
MANHOLE - 0' -10' DEEP
T.F. = 210.18
INV. (SE) = 205.73
INV. (E) = 205.48
INV. (NE) = 205.48
4' - 15" R.C. PIPE
- 0' -10' DEEP
CONVERT CATCH BASIN TO MANHOLE
T.F. = 210.32
ADJUST GATE BOX (WATER)
ADJUST GATE BOX (WATER)
TYPE 'C' CATCH BASIN DOUBLE GRATE
TYPE 2 - 0' - 10' DEEP
T.F. = 209.59
INV. (W) = 205.88
INV. (NW) = 205.79
ABANDON EXISTING PIPE
ABANDON DRAINAGE
STRUCTURE
92' - 15" R.C. PIPE - 0' - 10' DEEP
TYPE 'C-L' DRYWELL CATCHBASIN (4' SUMP)
T.F. = 208.72
(SEE MDS-14)

EO1 AND PO1

INTERMEDIATE RIPRAP APRON TYPE "B"
(SEE MDS-13)
CONCRETE ENDWALL
TO BE PAID FOR AS CONCRETE FOR STEPS AND COPINGS
INV. = 204.74
(SEE MDS-13)
20' - 24" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2 - 0' - 10' DEEP
T.F. = 209.84
INV. (SW) = 205.03
INV. (NE) = 204.95
SUMP = 200.95
REMOVE EXISTING CATCH BASIN
8' - 24" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING ENDWALL
TO BE PAID FOR AS REMOVAL OF EXISTING MASONRY
RESET MANHOLE
MANHOLE FRAME AND COVER
T.F. = 210.36
4' - 15" R.C. PIPE - 0' - 10' DEEP
12' - 15" R.C. PIPE - 0' - 10' DEEP
RESET MANHOLE (SANITARY SEWER)
4' - 15" R.C. PIPE - 0' - 10' DEEP
RESET MANHOLE (SANITARY SEWER)
RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 211.18
RESET MANHOLE
MANHOLE FRAME AND COVER
T.F. = 210.56
RESET MANHOLE BY OTHERS (TELEPHONE)
MANHOLE - 0' - 10' DEEP
T.F. = 210.02
INV. (SW) = 207.02
INV. (NW) = 206.17
REMOVE EXISTING CATCH BASIN
24' - REMOVE EXISTING PIPE - 0' - 10' DEEP
12' - 12" R.C. PIPE - 0' - 10' DEEP
ABANDON DRAINAGE STRUCTURE
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.67
INV. (SE) = 207.16
INV. (NE) = 207.08
(CATCH BASIN TO BE CAST IN PLACE)
32' - 12" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.89
INV. = 207.32
(CATCH BASIN TO BE CAST IN PLACE)

MATCH TO DRAWING NO. DRG-04

MATCH TO DRAWING NO. DRG-03

GENERAL NOTES:

1. CATCH BASIN SEDIMENT FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS WITHIN THE PROJECT LIMITS.
2. UPON COMPLETION OF ALL EXCAVATION ACTIVITIES, ALL DRAINAGE STRUCTURES AND PIPES WITHIN THE PROJECT LIMITS AND ALONG ROUTE 10/202 FROM THE PROJECT LIMITS TO THE OUTLET AT WEST BRANCH SALMON BROOK RIVER SHALL BE CLEANED.

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

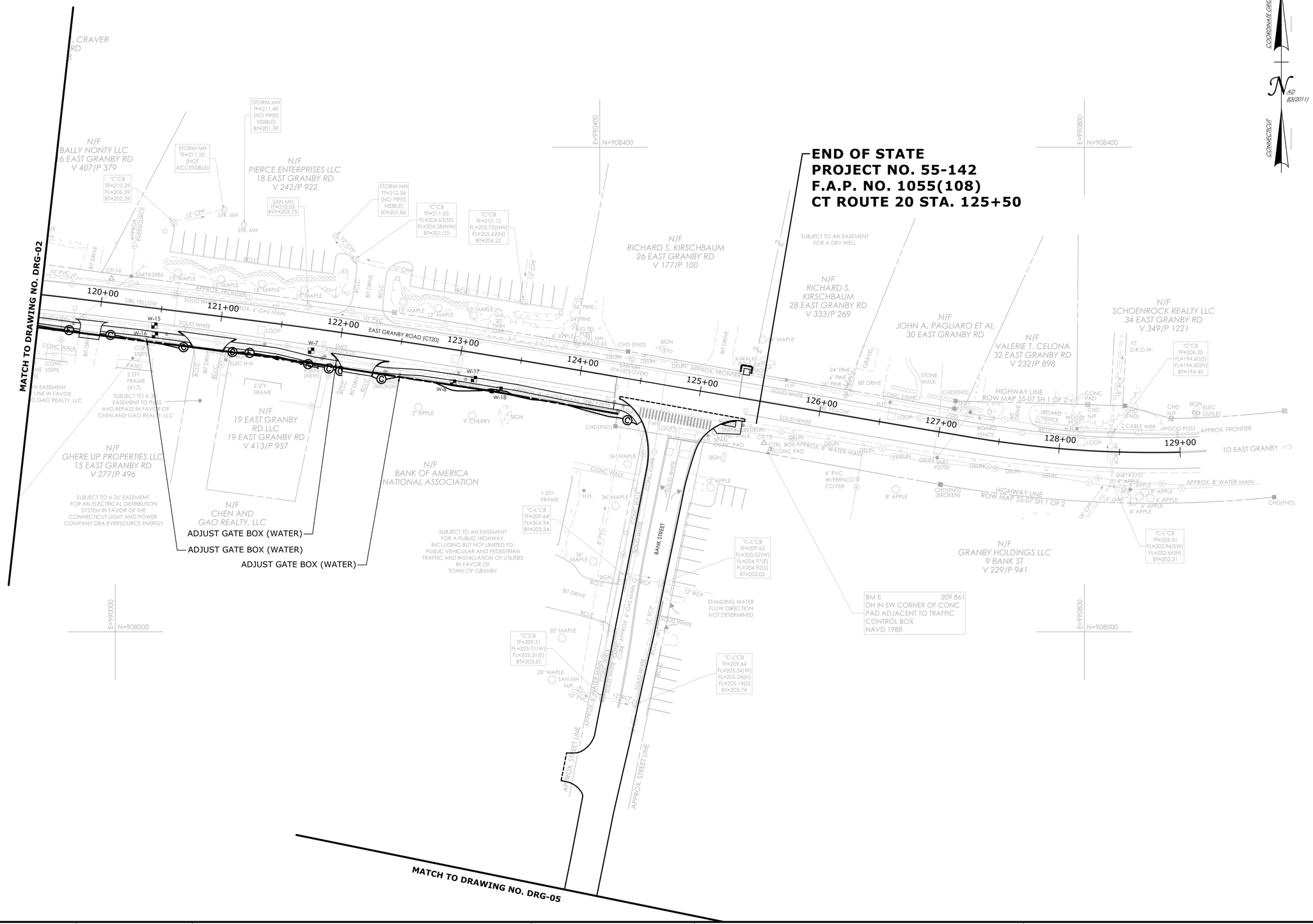
TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: DRAINAGE, WATER, GAS, AND SEWER PLAN
DRAWING NO. DRG-02
SHEET NO.

C-07

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

DESIGNED/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 5/5/2021
Filename: D:\Users\mccoy\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SSA\330_Design_Data\Highways\HW_MSH_0055_0142_DRG-02.dgn



DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\ICConnecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\HW_MSH_0055_0142_DRG-03.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: DRAINAGE, WATER, GAS, AND SEWER PLAN

DRAWING NO. DRG-03
SHEET NO.

C-08

MATCH TO DRAWING NO. DRG-02

RESET MANHOLE (SANITARY SEWER)
ADJUST GATE BOX (WATER)
TYPE 'C' CATCH BASIN DOUBLE GRATE
TYPE 2 - 0' - 10' DEEP
T.F. = 208.38
INV. = 205.13
(CATCH BASIN TO BE CAST IN PLACE)
36' - 15" R.C. PIPE - 0' - 10' DEEP
RELOCATE FIRE HYDRANT BY OTHERS
ADJUST GATE BOX (WATER)
4' - 8" POLYVINYL CHLORIDE PIPE - 0' - 10' DEEP
MANHOLE - 0' - 10' DEEP
T.F. = 208.72
INV. (N) = 204.95
INV. (E) = 204.87
16' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN
ADJUST GATE BOX (GAS)

CONTRACTOR TO CONFIRM 1" STEEL PIPE FOUND IN TEST PIT W-20 IS INACTIVE. IF 1" STEEL PIPE IS INACTIVE, REMOVE THE PIPE. REMOVAL TO BE INCLUDED IN THE COST OF THE BITUMINOUS CONCRETE DRIVEWAY. IF 1" STEEL PIPE IS ACTIVE, CONTRACTOR SHALL CONTACT ENGINEER FOR FURTHER INSTRUCTION.

8' - 15" R.C. PIPE - 0' - 10' DEEP
ADJUST GATE BOX (WATER)
ADJUST GATE BOX (WATER)

TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.27
INV. = 204.85
12' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN

RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 210.34

BEGINNING OF STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
US 202/ROUTE 10 STA. 201+50

TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2 - 0' - 10' DEEP
T.F. = 208.60
INV. = 204.80
52' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING CATCH BASIN
8' - 18" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING MANHOLE
MANHOLE - 0' - 10' DEEP
T.F. = 209.13
INV. (NW) = 204.28
INV. (W) = 204.16
INV. (N) = 204.03
INV. (S) = 204.03
4' - 18" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.35
INV. = 206.79
(CATCH BASIN TO BE CAST IN PLACE)
52' - 15" R.C. PIPE - 0' - 10' DEEP
ADJUST GATE BOX (WATER)
REMOVE EXISTING CATCH BASIN
RELOCATE FIRE HYDRANT BY OTHERS

TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 211.89
INV. = 208.16
REMOVE EXISTING CATCH BASIN
48' - 15" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING PIPE (37')
REMOVE EXISTING CATCH BASIN
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 211.96
INV. (NE) = 207.68
INV. (SE) = 207.43
INV. (W) = 207.35
152' - 15" R.C. PIPE - 0' - 10' DEEP

150' - REMOVE EXISTING PIPE - 0' - 10' DEEP
36' - 12" POLYVINYL CHLORIDE PIPE - 0' - 10' DEEP
33' - REMOVE EXISTING PIPE - 0' - 10' DEEP
MATCH EXISTING INVERT
4' - 6" POLYVINYL CHLORIDE PIPE - 0' - 10' DEEP
RESET TYPE 'C-L' CATCH BASIN
TYPE 'C-L' CATCH BASIN TOP
T.F. = 213.53
REMOVE EXISTING PIPE (177')
180' - 18" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.59
INV. (N) = 206.53
INV. (E) = 206.45
INV. (SW) = 206.37
(CATCH BASIN TO BE CAST IN PLACE)
REMOVE EXISTING CATCH BASIN
55' - REMOVE EXISTING PIPE - 0' - 10' DEEP
80' - 18" R.C. PIPE - 0' - 10' DEEP
REMOVE DRAINAGE STRUCTURE - 0' - 10' DEEP
14' - REMOVE EXISTING PIPE - 0' - 10' DEEP
8' - 18" R.C. PIPE - 0' - 10' DEEP
REMOVE EXISTING MANHOLE
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 209.27
INV. (NE) = 205.97
INV. (N) = 203.20
INV. (S) = 203.14
(CATCH BASIN TO BE CAST IN PLACE)
4' - 18" R.C. PIPE - 0' - 10' DEEP

RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 209.41

RESET TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 210.23

CONVERT MANHOLE TO TYPE 'C' CATCH BASIN
TYPE 'C' CATCH BASIN TOP
T.F. = 210.46

TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 211.96
INV. (NE) = 207.68
INV. (SE) = 207.43
INV. (W) = 207.35
152' - 15" R.C. PIPE - 0' - 10' DEEP

TYPE 'C-L' CATCH BASIN - 0' - 10' DEEP
T.F. = 213.63
INV. (W) = 209.78
INV. (SW) = 209.48
INV. (SE) = 209.03
INV. (NW) = 208.95
RESET MANHOLE (SANITARY SEWER)
ADJUST GATE BOX (WATER)
31' - REMOVE EXISTING PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN- 0' - 10' DEEP
T.F. = 214.05
INV. = 210.51

194' - REMOVE EXISTING PIPE - 0' - 10' DEEP
196' - 15" R.C. PIPE - 0' - 10' DEEP
28' - 12" R.C. PIPE - 0' - 10' DEEP
TYPE 'C' CATCH BASIN - 0' - 10' DEEP
T.F. = 214.05
INV. (NE) = 210.37
INV. (SE) = 210.29
INV. (NW) = 210.21

200' - 12" R.C. PIPE - 0' - 10' DEEP
200' - REMOVE EXISTING PIPE - 0' - 10' DEEP

RESET MANHOLE (SANITARY SEWER)

MATCH TO DRAWING NO. DRG-05

GENERAL NOTES:

1. CATCH BASIN SEDIMENT FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS WITHIN THE PROJECT LIMITS.
2. UPON COMPLETION OF ALL EXCAVATION ACTIVITIES, ALL DRAINAGE STRUCTURES AND PIPES WITHIN THE PROJECT LIMITS AND ALONG ROUTE 10/202 FROM THE PROJECT LIMITS TO THE OUTLET AT WEST BRANCH SALMON BROOK RIVER SHALL BE CLEANED.

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\JVConnecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\HW_MSH_0055_0142_DRG-04.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

COORDINATE GRID
NAD 83(2011)
CONNECTICUT

0 40' 80'
HORIZONTAL SCALE 1"=40'

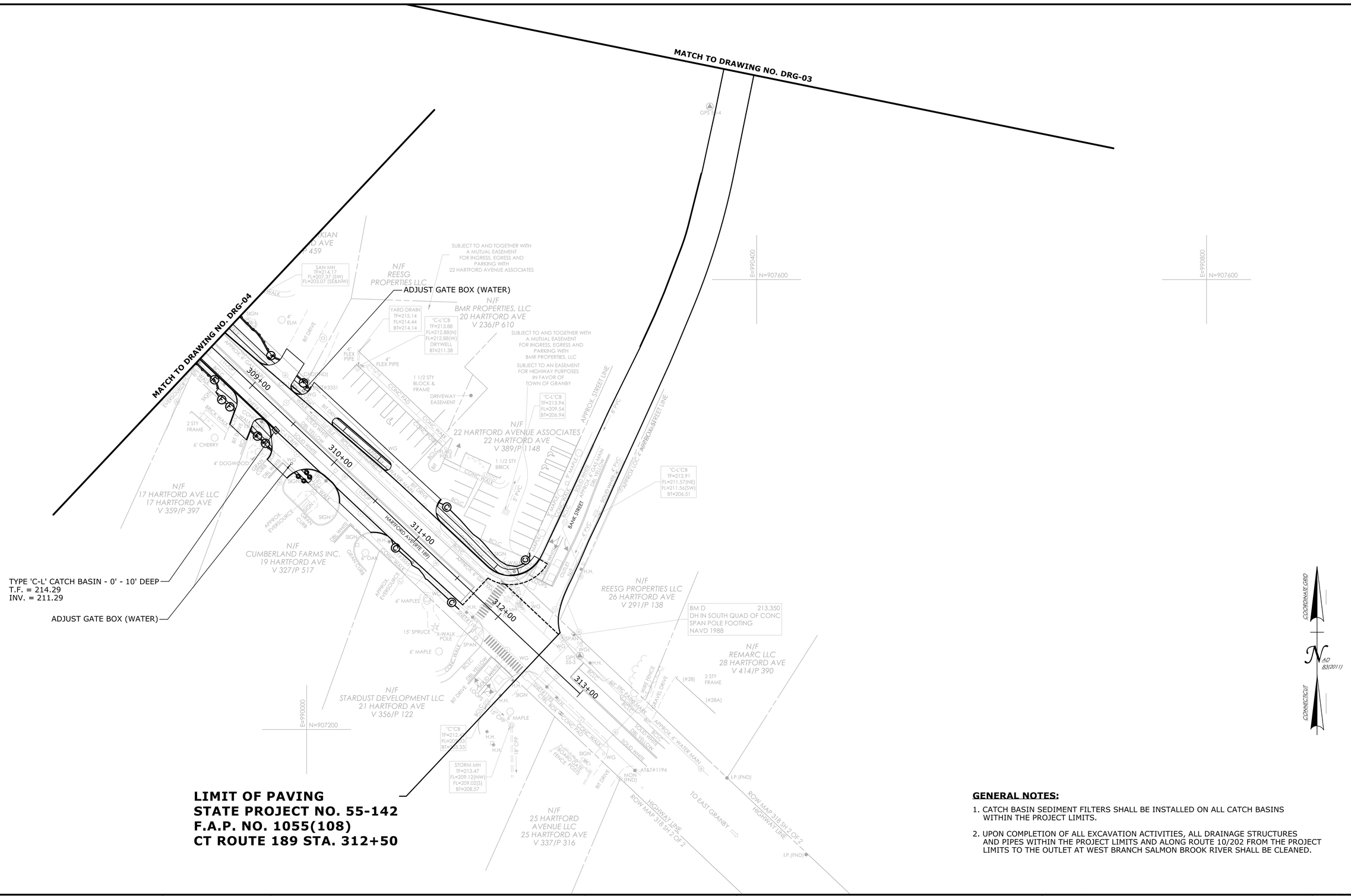
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189
TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: DRAINAGE, WATER, GAS, AND SEWER PLAN
DRAWING NO. DRG-04
SHEET NO.



LIMIT OF PAVING
STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
CT ROUTE 189 STA. 312+50

GENERAL NOTES:

1. CATCH BASIN SEDIMENT FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS WITHIN THE PROJECT LIMITS.
2. UPON COMPLETION OF ALL EXCAVATION ACTIVITIES, ALL DRAINAGE STRUCTURES AND PIPES WITHIN THE PROJECT LIMITS AND ALONG ROUTE 10/202 FROM THE PROJECT LIMITS TO THE OUTLET AT WEST BRANCH SALMON BROOK RIVER SHALL BE CLEANED.

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/27/2021
Filename: D:\Users\mccoy\f\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SSA\330_Design_Data\Highways\HW_MSH_0055_0142_DRG-05.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: DRAINAGE, WATER, GAS AND SEWER PLAN

DRAWING NO. DRG-05
SHEET NO.

SURVEYED STORM DRAINAGE INFORMATION

STRUCTURE	TF ELEVATION	FL INFO	COMMENTS
"C"CB(1)	209.19	FL=204.54(NW) FL=202.94(NE) FL=202.89(SW) BT=201.69	
DBL "C"CB(2)	208.53	FL=205.23(NE) FL=204.93(SW) BT=204.23	
"C"CB(3)	209.49	FL=205.39(E) FL=205.29(N) FL=205.29(SW) BT=203.39	
"C"CB(4)	211.80	FL=207.00(SE) FL=206.95(NE) FL=206.90(W) BT=205.00	
"C-L"CB(5)	213.41	FL=209.31(NW) FL=209.21(SW) FL=210.21(NE) BT=207.31	
"C-L"CB(6)	213.39	FL=210.59 BT=210.54	
"C-L"CB(7)	213.48	FL=209.78(SW) FL=209.98(SSW) FL=209.48(SE) FL=209.38(NW) BT=208.58	
"C"CB(8)	213.77	FL=210.77(SE) FL=210.62(NE) FL=210.57(NW) BT=209.17	
"C-L"CB(9)	213.85	FL=211.55 BT=210.55	
"C"CB(10)	211.69	FL=207.39 BT=205.24	
"C"CB(11)	209.52	FL=205.52 BT=203.52	
"C-L"CB(12)	211.32	BT=208.52	NO PIPES VISIBLE
"C"CB(13)	208.25	FL=204.20(W) FL=204.45(NE) BT=203.65	
STORM MH(14)	209.19	FL=204.44(SW) FL=204.09(NE) FL=204.09(SSW) BT=203.99	

STRUCTURE	TF ELEVATION	FL INFO	COMMENTS
STORM MH(15)	210.69	FL=207.29(W) FL=206.89(NE) FL=206.39(SE) FL=205.29(NW) FL=204.74(SW) BT=204.79	
"C-L"CB(16)	210.26	FL=208.36(NE) FL=206.96(NW) BT=206.06	
"C-L"CB(17)	210.68	FL=209.08(SE) FL=208.88(SW) BT=207.38	
"C"CB(18)	212.18	FL=209.83 BT=209.78	
"C"CB(19)	208.55	FL=205.05(W) FL=204.75(E) BT=204.15	
ROUND "C-L"CB(20)	211.28	FL=205.38 BT=204.18	
"C"CB(21)	211.18	FL=208.28 BT=206.98	FULL
"C"CB(22)	212.54	FL=208.34(SE) FL=208.19(E) BT=207.79	
"C"CB(23)	210.92	FL=207.17 BT=206.92	
"C-L"CB(24)	211.70	FL=207.70 BT=205.90	
"C"CB(25)	209.62	FL=205.07(SW) FL=205.22(NE) BT=204.42	
"C-L"CB(26)	208.17	FL=205.97 BT=203.87	FULL
STORM MH(27)	209.38	FL=205.58(SW) FL=205.48(E) FL=205.48(NE) BT=205.08	
"C"CB(28)	209.70	FL=206.00(E) FL=206.00(W) BT=204.80	
STORM MH(29)	210.41	FL=207.11(NE) FL=207.01(S) FL=206.81(NW) BT=206.61	

STRUCTURE	TF ELEVATION	FL INFO	COMMENTS
"C"CB(30)	209.57	FL=206.17(SE) FL=206.17(NW) BT=204.57	
"C"CB(31)	209.89	FL=207.14 BT=204.79	
"C-L"CB(32)	213.91	FL=209.41(NW) FL=209.26(SE) BT=208.96	
"C"CB(33)	213.08	FL=209.43(N) FL=209.43(S) BT=208.98	
"C"CB(34)	219.67	FL=215.27(SW) FL=213.97(NW) FL=213.87(SE) BT=213.17	
STORM MH(35)	210.21	FL=206.06(N) FL=205.91(NW) FL=205.41(SE) BT=205.86	
TOWN CB(36)	208.64	BT=204.29	FULL
STORM MH(37)	213.47	FL=208.47(N) FL=208.42(NW) FL=208.22(SE) BT=208.22	
STORM MH(38)	212.35	FL=207.45(NW) FL=207.35(W) FL=207.10(E) BT=207.25	
STORM MH(39)	211.31	FL=207.41(S) FL=207.31(N) FL=206.96(W) FL=206.96(E) BT=207.01	
STORM MH(40)	209.93	FL=205.43(NW) FL=205.13(SW) FL=205.13(W) FL=205.03(E) FL=205.13(N) BT=204.93	
STORM MH(41)	208.66	FL=205.06(NE) FL=203.26(N) FL=203.16(SW) BT=201.66	

TEST PIT DATA PLN-02

TELECOMMUNICATIONS (FRONTIER)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
F-1	210+35.20	39.29' RT	908264.68	989277.78	209.39'	207.36'	CONDUIT 1.25' X 1.33'
F-2	114+96.88	52.52' RT	908258.96	989482.93	210.19'	206.67'	CONDUIT 2.83' X 1.33'

SEWER (TOWN OF GRANBY)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
S-1	214+85.46	33.11' LT	908690.38	989109.52	214.65'	208.01'	6" PVC SEWER MAIN
S-2	111+66.05	57.37' RT	908364.02	989145.38	213.22'	206.38'	18" RCP SEWER MAIN
S-3	210+18.80	33.41' LT	908231.26	989211.16	210.35'	205.84'	24" RCP SEWER MAIN
S-4	114+86.82	48.52' RT	908263.89	989472.52	210.20'	N/A	EMPTY
S-5	115+21.15	50.08' RT	908259.70	989507.98	210.09'	N/A	EMPTY

GAS (CONNECTICUT NATURAL GAS)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
G-1	111+69.62	45.33' RT	908372.29	989154.93	212.72'	210.08'	6" HDPE GAS MAIN
	111+70.10	44.85' RT	908372.44	989155.61	212.72'	210.25'	1.5" SERVICE LINE
G-2	210+17.45	23.97' LT	908232.22	989220.65	210.60'	207.58'	6" HDPE GAS MAIN
G-3	113+82.87	27.78' RT	908302.52	989367.99	209.13'	204.81'	6" HDPE GAS MAIN
G-4	114+91.82	43.86' RT	908268.04	989478.25	210.07'	207.19'	6" PE GAS MAIN
G-5	115+26.35	58.51' RT	908250.95	989512.61	210.94'	207.97'	6" PE GAS MAIN

WATER (SALMON BROOK WATER)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
W-1	214+92.41	19.73' RT	908703.70	989161.13	213.81'	209.43'	10" PVC WATER MAIN
W-2	111+54.41	61.96' RT	908366.84	989132.24	213.06'	208.01'	8" TRANSITE WATER MAIN
W-3	113+34.16	48.46' RT	908296.64	989312.95	209.01'	205.26'	8" TRANSITE WATER MAIN
W-4	113+68.14	41.88' RT	908292.72	989349.49	208.61'	205.05'	6" STEEL WATER MAIN
W-5	114+19.18	35.07' RT	908287.28	989403.48	208.65'	205.34'	GATE
W-6	116+66.31	16.77' RT	908283.38	989655.02	211.76'	207.82'	ABANDONED 3" STEEL PIPE
W-6A	116+65.78	28.54' RT	908271.67	989653.71	212.71'	N/A	EMPTY
W-13	112+50.26	14.14' LT	908386.04	989255.55	211.54'	N/A	EMPTY
W-14	117+63.90	16.36' RT	908277.49	989752.41	212.65'	207.66'	ABANDONED 2" STEEL PIPE

TEST PIT DATA PLN-03

WATER (SALMON BROOK WATER)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
W-7	121+77.03	18.28' RT	908232.08	990161.71	211.52'	207.91'	8" TRANSITE WATER MAIN
	121+77.37	22.85' RT	908227.51	990161.42	211.52'	207.69'	1"COPPER PIPE
W-8	122+97.27	27.10' RT	908205.76	990278.90	211.96'	207.36'	8" WATER MAIN
	122+96.43	19.15' RT	908213.74	990279.31	211.96'	209.67'	ABANDONED 2" STEEL PIPE
	122+96.63	17.55' RT	908215.28	990279.76	211.96'	206.86'	ABANDONED 3" STEEL PIPE
W-15	120+45.80	14.11' RT	908252.87	990032.34	212.53'	207.53'	8" TRANSITE WATER MAIN
	120+45.15	17.27' RT	908292.72	990031.30	212.53'	207.60'	ABANDONED 2" PIPE
	120+45.30	16.49' RT	908250.57	990031.54	212.53'	207.71'	ABANDONED 1" STEEL PIPE
W-16	120+47.33	22.03' RT	908244.82	990032.88	212.79'	N/A	EMPTY
W-17	123+13.90	21.42' RT	908208.74	990296.15	211.58'	N/A	EMPTY
W-18	123+36.26	26.68' RT	908199.95	990317.27	210.97'	206.78'	8" TRANSITE WATER MAIN

TEST PIT DATA PLN-04

TELECOMMUNICATIONS (FRONTIER)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
F-5	206+33.41	47.80' RT	907851.61	989329.43	209.78'	204.89'	CONDUIT 1.00' X 2.20'

SEWER (TOWN OF GRANBY)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
S-6	206+18.73	33.35' RT	907838.78	989312.48	209.58'	202.40'	24" RCP SEWER MAIN

GAS (CONNECTICUT NATURAL GAS)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
G-6	307+35.64	16.56' LT	907630.78	989843.35	214.28'	210.67'	6" HDPE GAS MAIN

WATER (SALMON BROOK WATER)

TEST PIT #	BASELINE STATION	BASELINE OFFSET	NORTHING	EASTING	EXISTING GROUND ELEVATION	TOP OF UTILITY ELEVATION	UTILITY DESCRIPTION
W-9	207+41.56	34.81' LT	907967.07	989256.31	210.70'	206.89'	GATE
W-10	206+66.14	40.06' LT	907896.38	989247.01	209.70'	206.74'	ABANDONED 3" STEEL PIPE
W-11	205+92.06	47.95' LT	907828.65	989227.43	210.57'	206.75'	8" TRANSITE WATER MAIN
	205+92.98	45.15' LT	907828.97	989230.38	210.57'	206.42'	ABANDONED 3" STEEL PIPE
W-12	302+18.71	24.18' LT	907918.70	989410.48	211.12'	207.25'	GATE
W-19	207+07.36	41.28' LT	907935.03	989249.00	210.95'	206.74'	12" TRANSITE WATER MAIN
W-20	206+64.95	44.50' LT	907895.79	989242.47	210.37'	207.06'	12" TRANSITE WATER MAIN
	206+66.13	42.72' LT	907896.68	989244.36	210.37'	209.32'	1" STEEL PIPE
W-21	206+39.12	46.24' LT	907872.19	989161.13	210.31'	207.32'	12" TRANSITE WATER MAIN
	206+38.98	43.18' LT	907871.59	989240.49	210.31'	206.77'	ABANDONED 3" STEEL PIPE
F-4	206+23.61	41.07' RT	907842.44	989321.01	209.87'	205.90'	ABANDONED 0.5" COPPER PIPE

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: SURVEYED STORM DRAINAGE INFORMATION AND TEST PIT DATA

DRAWING NO. DRG-06
SHEET NO.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES.

DRIVEWAY ACCESS SHALL BE MAINTAINED DURING DAYTIME HOURS.

COMPLETE WORK ON THE SOUTHERN SIDE OF ROUTE 189 BEFORE STARTING WORK ON THE NORTHERN SIDE OF ROUTE 189.

SUGGESTED WORK SEQUENCE:

1. PERFORM WORK REQUIRED BY UTILITY COMPANIES IN ORDER TO COMPLETE UTILITY POLE RELOCATIONS.
2. ESTABLISH TRAFFIC PATTERNS.
3. CLEAR AND GRUB AND INSTALL SEDIMENTATION CONTROL SYSTEM.
4. RELOCATE MAILBOXES (APPROX. STATION 307+45RT AND 307+55RT).
5. REMOVE EXISTING SIDEWALK, CONSTRUCT SIDEWALK, AND INSTALL PEDESTRIAN PUSH BUTTONS. THIS WORK SHALL BE COMPLETED ON THE SOUTHERN SIDE OF THE ROAD BEFORE BEGINNING SIDEWALK CONSTRUCTION ON THE NORTHERN SIDE OF THE ROAD. (REFER TO STG-01-B)
6. CUT BITUMINOUS CONCRETE PAVEMENT.
7. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
8. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
9. EXCAVATE AND FORM SUBGRADE, PLACE BASE, INSTALL GRANITE CURBING, AND BEGIN TRAFFIC SIGNAL WORK AT THE INTERSECTION OF ROUTE 189 AND BANK STREET.
10. PERFORM MILLING AND WEDGING.
11. PLACE PAVEMENT.
12. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
13. CONSTRUCT DRIVEWAYS.
14. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
15. INSTALL TRAFFIC SIGNS AS SHOWN ON TRAFFIC PLAN SHEETS.
16. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA

Plotted Date: 4/26/2021
Filename: D:\Users\mccoyjl\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV. | DATE | REVISION DESCRIPTION

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/BLOCK:

APPROVED BY:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 1
DRAWING NO. STG-01-A
SHEET NO.

THE ACQUISITIONS OF THE GRANBY HOMES FOR SENIOR CITIZENS INC. AND THE ACE APARTMENTS LLC PROPERTIES ARE ANTICIPATED TO BE COMPLETE BY 12/31/2021. NO WORK SHALL BE PERFORMED ON THESE PROPERTIES UNTIL THE ACQUISITIONS HAVE BEEN COMPLETED AND THE ENGINEER HAS RECEIVED APPROVAL FROM THE DESIGNER THAT WORK MAY BEGIN ON THESE PROPERTIES.

SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CLEAR AND GRUB.
3. CONSTRUCT TEMPORARY SIDEWALK (REFER TO STG-02-B).
4. CONSTRUCT SIDEWALK AND INSTALL PEDESTRIAN PUSH BUTTONS.
5. REMOVE TEMPORARY SIDEWALK AND EXISTING SIDEWALK.
6. CUT BITUMINOUS CONCRETE PAVEMENT.
7. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
8. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
9. EXCAVATE AND FORM SUBGRADE, PLACE BASE, INSTALL GRANITE CURBING, AND BEGIN TRAFFIC SIGNAL WORK.
10. PERFORM MILLING AND WEDGING.
11. PLACE PAVEMENT.
12. CONSTRUCT DRIVEWAYS.
13. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
14. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
15. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/26/2021
Filename: D:\Users\mccoyj\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 80' 160'
HORIZONTAL SCALE
1"=80'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 2

DRAWING NO. STG-02-A
SHEET NO.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES.

DRIVEWAY ACCESS SHALL BE MAINTAINED DURING DAYTIME HOURS.

COMPLETE WORK ON ONE SIDE OF THE ROAD BEFORE STARTING WORK ON THE OTHER SIDE OF THE ROAD.

SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CLEAR AND GRUB AND INSTALL SEDIMENTATION CONTROL SYSTEM.
3. RELOCATE MAILBOX (APPROX. STATION 115+90LT).
4. REMOVE EXISTING SIDEWALKS, CONSTRUCT SIDEWALKS, AND INSTALL PEDESTRIAN PUSH BUTTONS. COMPLETE THIS WORK ON ONE SIDE OF THE ROAD BEFORE BEGINNING SIDEWALK CONSTRUCTION ON THE OTHER SIDE OF THE ROAD. (REFER TO STG-03-B)
5. REMOVE EXISTING ISLAND AND INSTALL TEMPORARY PAVEMENT STRUCTURE.
6. CUT BITUMINOUS CONCRETE PAVEMENT.
7. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
8. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
9. EXCAVATE AND FORM SUBGRADE, PLACE BASE, INSTALL GRANITE CURBING, AND BEGIN TRAFFIC SIGNAL WORK AT THE INTERSECTION OF ROUTE 10/202 AND ROUTE 20 AND AT THE INTERSECTION OF ROUTE 20 AND BANK STREET.
10. PERFORM MILLING AND WEDGING.
11. PLACE PAVEMENT.
12. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
13. CONSTRUCT SPLITTER ISLAND, PEDESTRIAN REFUGEE ISLAND, AND DRIVEWAYS.
14. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
15. INSTALL TRAFFIC SIGNS AS SHOWN ON TRAFFIC PLAN SHEETS.
16. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA

Plotted Date: 5/5/2021
Filename: D:\Users\mccoyjl\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV. | DATE | REVISION DESCRIPTION

0 80' 160'
HORIZONTAL SCALE 1"=80'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 3

DRAWING NO. STG-03-A
SHEET NO.

SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CLEAR AND GRUB AND INSTALL SEDIMENTATION CONTROL SYSTEM.
3. CONSTRUCT TEMPORARY SIDEWALK (REFER TO STG-04-B).
3. CONSTRUCT SIDEWALKS, AND INSTALL PEDESTRIAN PUSH BUTTONS.
4. REMOVE TEMPORARY SIDEWALK AND EXISTING SIDEWALK.
5. REMOVE EXISTING ISLAND AND INSTALL TEMPORARY PAVEMENT STRUCTURE.
6. CUT BITUMINOUS CONCRETE PAVEMENT.
7. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
8. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
9. EXCAVATE AND FORM SUBGRADE, PLACE BASE, AND INSTALL GRANITE CURBING.
10. PERFORM MILLING AND WEDGING.
11. PLACE PAVEMENT.
12. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
13. CONSTRUCT PEDESTRIAN REFUGEE ISLAND AND DRIVEWAYS.
14. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
15. INSTALL TRAFFIC SIGNS AS SHOWN ON TRAFFIC PLAN SHEETS.
16. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.

FULL DEPTH CONSTRUCTION

COORDINATE GRID
NAD 83(2011)
CONNECTICUT

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/26/2021
Filename: D:\Users\mcoy\I\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SSA\330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 4

DRAWING NO. STG-04-A
SHEET NO.

SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CLEAR AND GRUB AND INSTALL SEDIMENTATION CONTROL SYSTEM.
3. CONSTRUCT TEMPORARY SIDEWALK (REFER TO STG-05-B).
3. CONSTRUCT SIDEWALKS, REMOVE EXISTING SIDEWALK AND TEMPORARY SIDEWALK, AND INSTALL PEDESTRIAN PUSH BUTTONS.
4. CUT BITUMINOUS CONCRETE PAVEMENT.
5. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
6. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
7. EXCAVATE AND FORM SUBGRADE, PLACE BASE, AND INSTALL GRANITE CURBING.
8. PERFORM MILLING AND WEDGING.
9. PLACE PAVEMENT.
10. CONSTRUCT DRIVEWAYS.
11. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
12. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
13. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA

Plotted Date: 4/16/2021
Filename: D:\Users\mccoyjl\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV. | DATE | REVISION DESCRIPTION

HORIZONTAL SCALE 1"=40' (0, 40', 80')

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

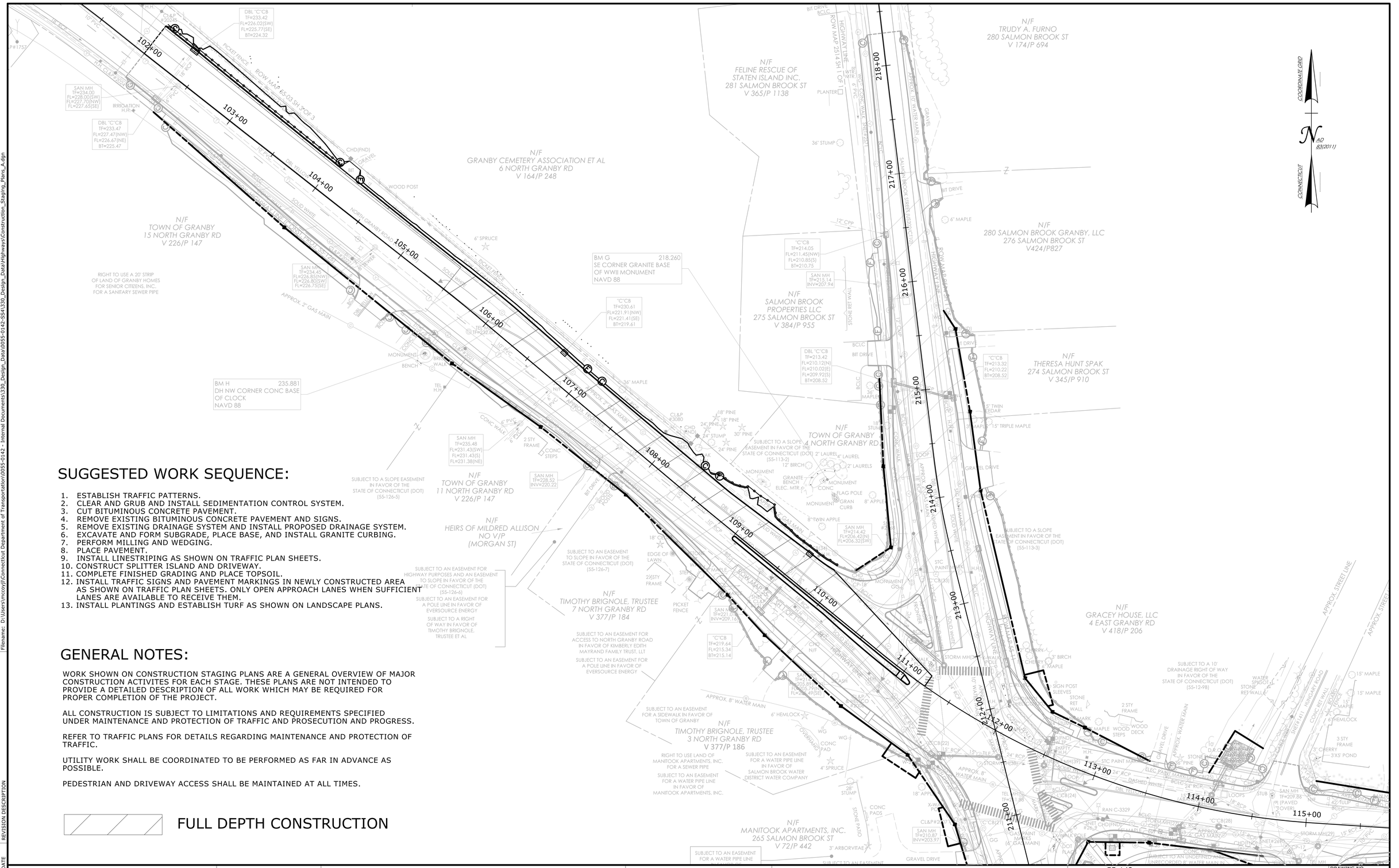
APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 5
DRAWING NO. STG-05-A
SHEET NO.



SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CLEAR AND GRUB AND INSTALL SEDIMENTATION CONTROL SYSTEM.
3. CUT BITUMINOUS CONCRETE PAVEMENT.
4. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND SIGNS.
5. REMOVE EXISTING DRAINAGE SYSTEM AND INSTALL PROPOSED DRAINAGE SYSTEM.
6. EXCAVATE AND FORM SUBGRADE, PLACE BASE, AND INSTALL GRANITE CURBING.
7. PERFORM MILLING AND WEDGING.
8. PLACE PAVEMENT.
9. INSTALL LINESTRIPING AS SHOWN ON TRAFFIC PLAN SHEETS.
10. CONSTRUCT SPLITTER ISLAND AND DRIVEWAY.
11. COMPLETE FINISHED GRADING AND PLACE TOPSOIL.
12. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.
13. INSTALL PLANTINGS AND ESTABLISH TURF AS SHOWN ON LANDSCAPE PLANS.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTENANCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/16/2021
Filename: D:\Users\mccoy\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

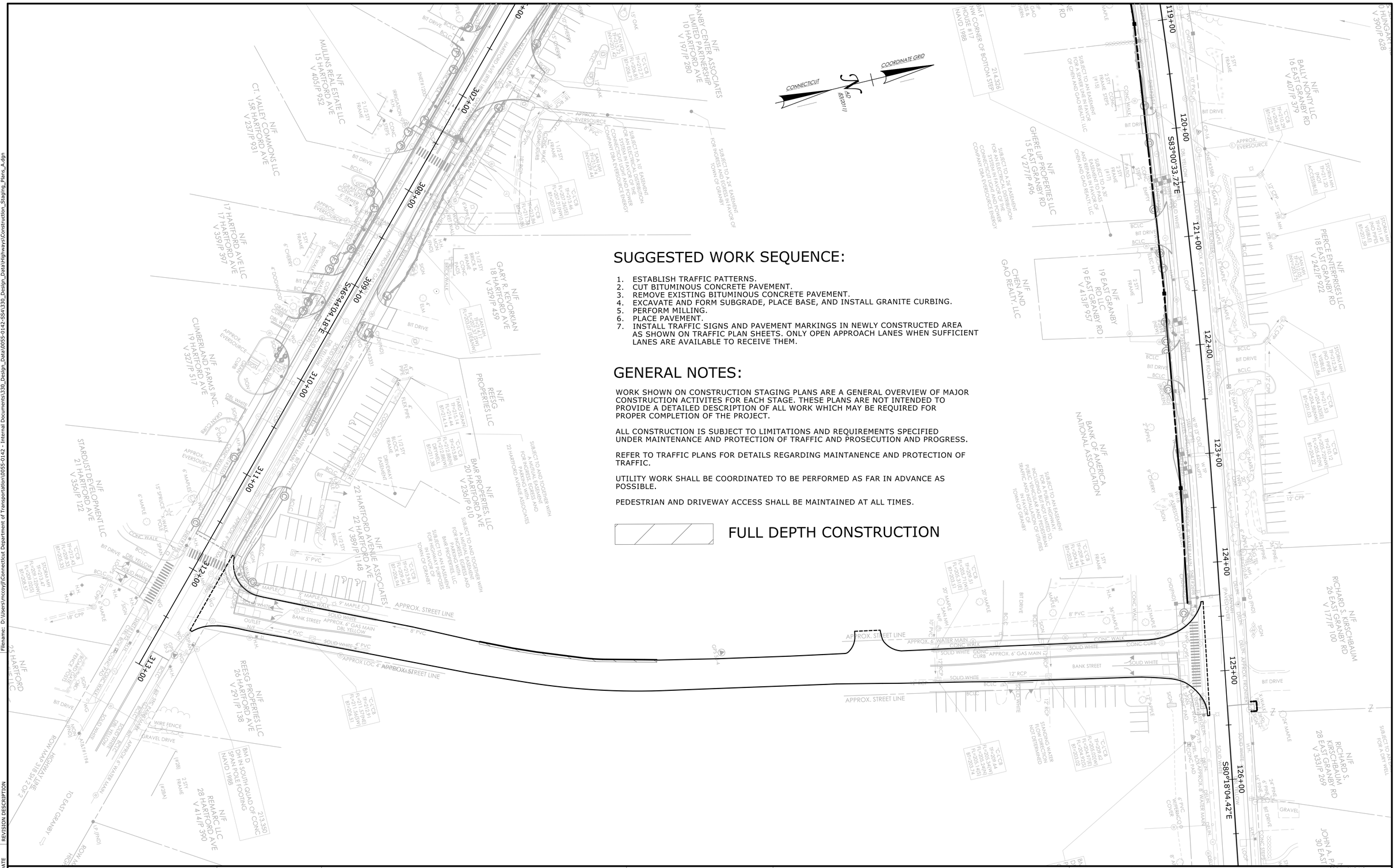
APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 6
DRAWING NO. STG-06-A
SHEET NO.



SUGGESTED WORK SEQUENCE:

1. ESTABLISH TRAFFIC PATTERNS.
2. CUT BITUMINOUS CONCRETE PAVEMENT.
3. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT.
4. EXCAVATE AND FORM SUBGRADE, PLACE BASE, AND INSTALL GRANITE CURBING.
5. PERFORM MILLING.
6. PLACE PAVEMENT.
7. INSTALL TRAFFIC SIGNS AND PAVEMENT MARKINGS IN NEWLY CONSTRUCTED AREA AS SHOWN ON TRAFFIC PLAN SHEETS. ONLY OPEN APPROACH LANES WHEN SUFFICIENT LANES ARE AVAILABLE TO RECEIVE THEM.

GENERAL NOTES:

WORK SHOWN ON CONSTRUCTION STAGING PLANS ARE A GENERAL OVERVIEW OF MAJOR CONSTRUCTION ACTIVITES FOR EACH STAGE. THESE PLANS ARE NOT INTENDED TO PROVIDE A DETAILED DESCRIPTION OF ALL WORK WHICH MAY BE REQUIRED FOR PROPER COMPLETION OF THE PROJECT.

ALL CONSTRUCTION IS SUBJECT TO LIMITATIONS AND REQUIREMENTS SPECIFIED UNDER MAINTENANCE AND PROTECTION OF TRAFFIC AND PROSECUTION AND PROGRESS.

REFER TO TRAFFIC PLANS FOR DETAILS REGARDING MAINTANENCE AND PROTECTION OF TRAFFIC.

UTILITY WORK SHALL BE COORDINATED TO BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE.

PEDESTRIAN AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.

FULL DEPTH CONSTRUCTION

DESIGNER/DRAFTER: JLM
CHECKED BY: JDA
Plotted Date: 4/26/2021
Filename: D:\Users\mccoyjl\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SSI\330_Design_Data\Highways\Construction_Staging_Plans_A.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

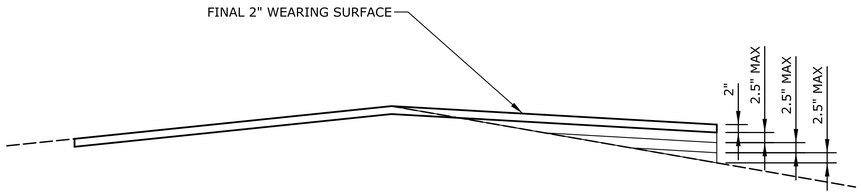
APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

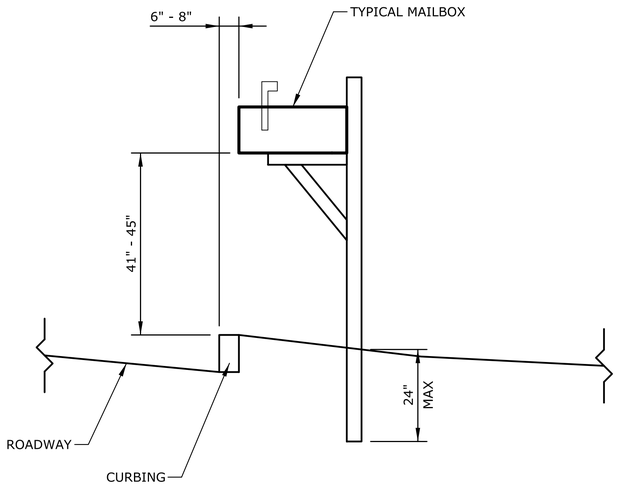
TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: CONSTRUCTION STAGE 7
DRAWING NO. STG-07-A
SHEET NO.



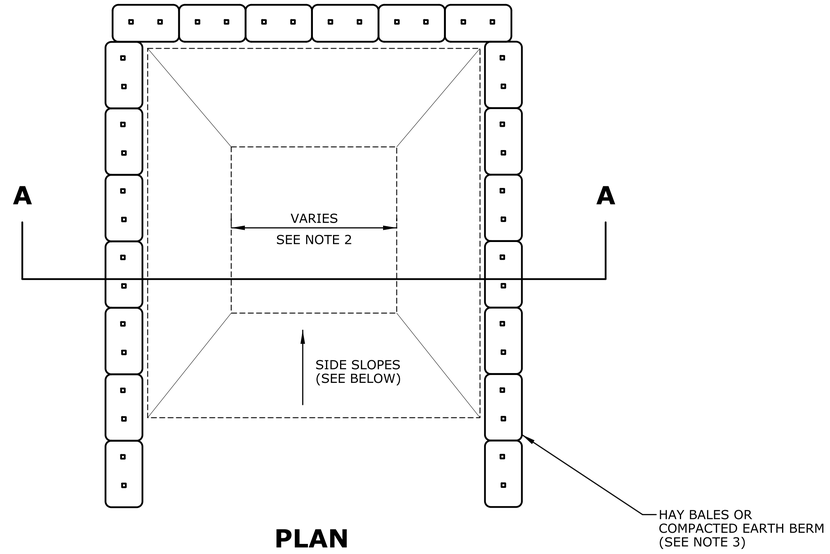
WEDGE COURSE DETAIL

USE PMA S0.5 TRAFFIC LEVEL 3 FOR FINAL WEARING SURFACE
USE HMA S0.375 TRAFFIC LEVEL 2 FOR WEDGE COURSE
MINIMUM LIFT THICKNESS 0.5"
MAXIMUM LIFT THICKNESS 2.5"

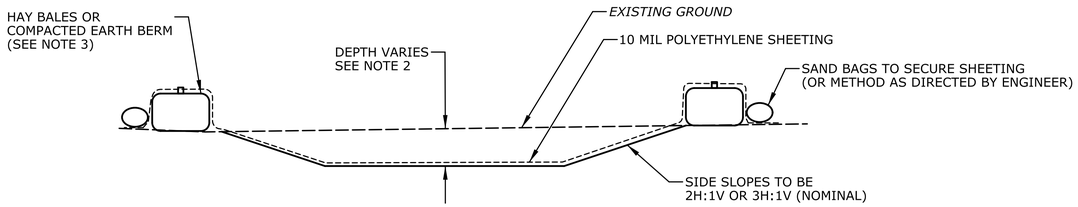


TYPICAL MAILBOX RELOCATION DETAIL

ALL COSTS TO BE INCLUDED IN THE COST OF CLEARING AND GRUBBING



PLAN



SECTION A-A

GENERAL NOTES:

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) WITH THE PROJECT'S EROSION AND SEDIMENTATION CONTROL PLAN AND SHALL BE APPROVED BY THE ENGINEER.

   LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AT LEAST 50 FEET FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOODPLAIN.

   SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING, BUT NOT LIMITED TO, OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.
3. SURFACE DISCHARGE IS UNACCEPTABLE. THEREFORE, HAY BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHOD.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. (AS REQUIRED BY THE CONSTRUCTION SITE ENVIRONMENTAL INSPECTION REPORT) WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S DEPTH. THE WASTE CAN BE STORED AT AN UPLAND LOCATION, AS APPROVED BY THE ENGINEER. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.
7. PAYMENT FOR THIS ITEM IS TO BE INCLUDED UNDER THE GENERAL COST OF THE WORK FOR THE PROJECT, INCLUDING SITE RESTORATION.

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 3/23/2021
Filename: D:\Users\mccoy\[Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS4\330_Design_Data\Highways\HW_MSH_0055_0142_MDS-01.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

NOT TO SCALE

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

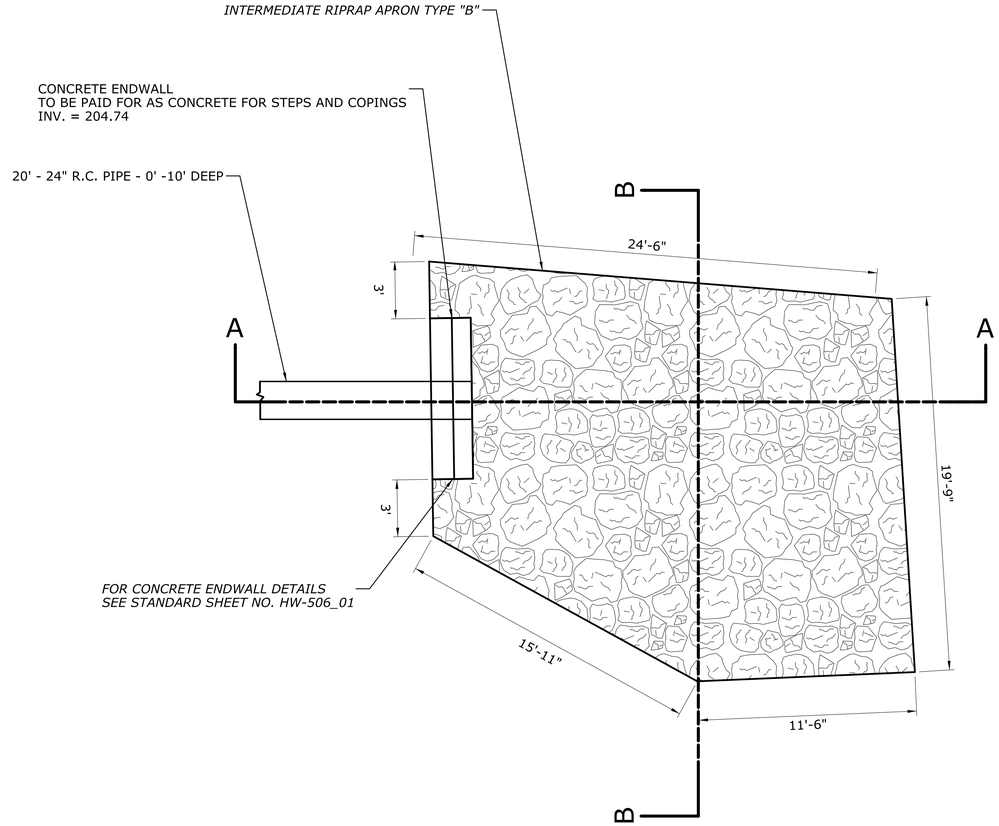
MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

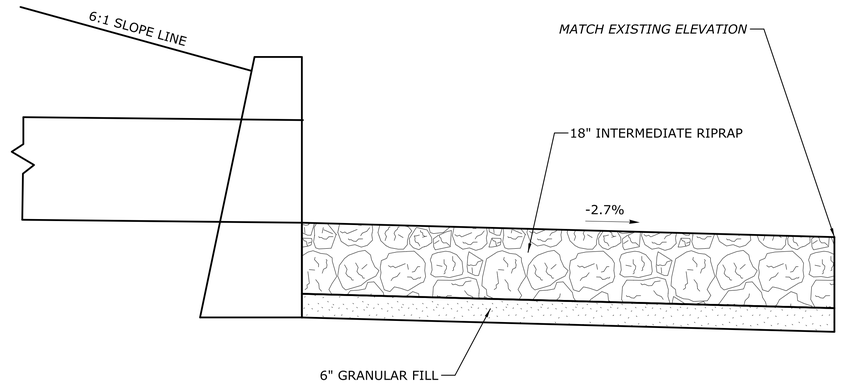
PROJECT NO. 55-142
DRAWING TITLE: MISCELLANEOUS DETAILS

DRAWING NO. MDS-01
SHEET NO.

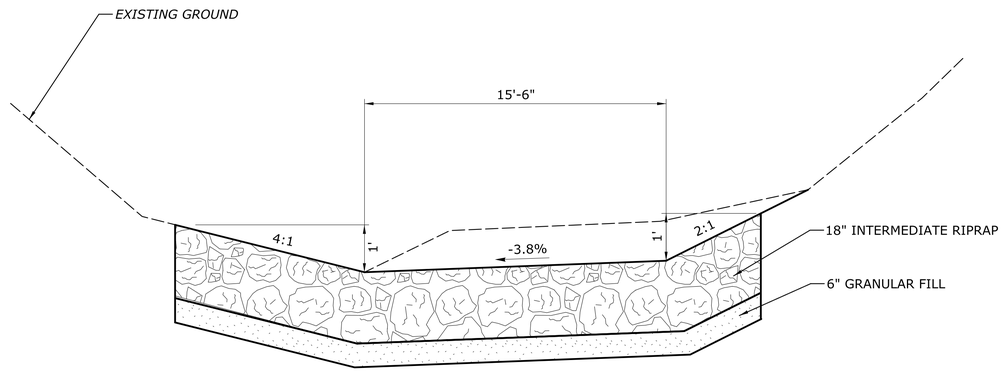
OUTLET 114+19 LT



PLAN VIEW



SECTION A-A



SECTION B-B

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 3/23/2021
Filename: D:\Users\mccoyj\Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41330_Design_Data\Highways\HW_MSH_0052_0142_MDS-13.dgn

NOT TO SCALE

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

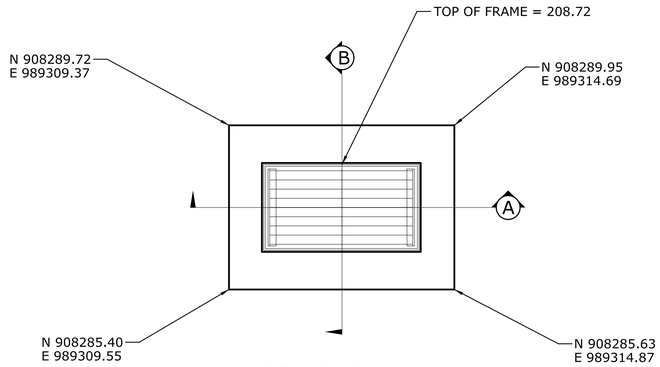
PROJECT NO. 55-142

DRAWING TITLE: MISCELLANEOUS DETAILS
OUTLET

DRAWING NO. MDS-13

SHEET NO.

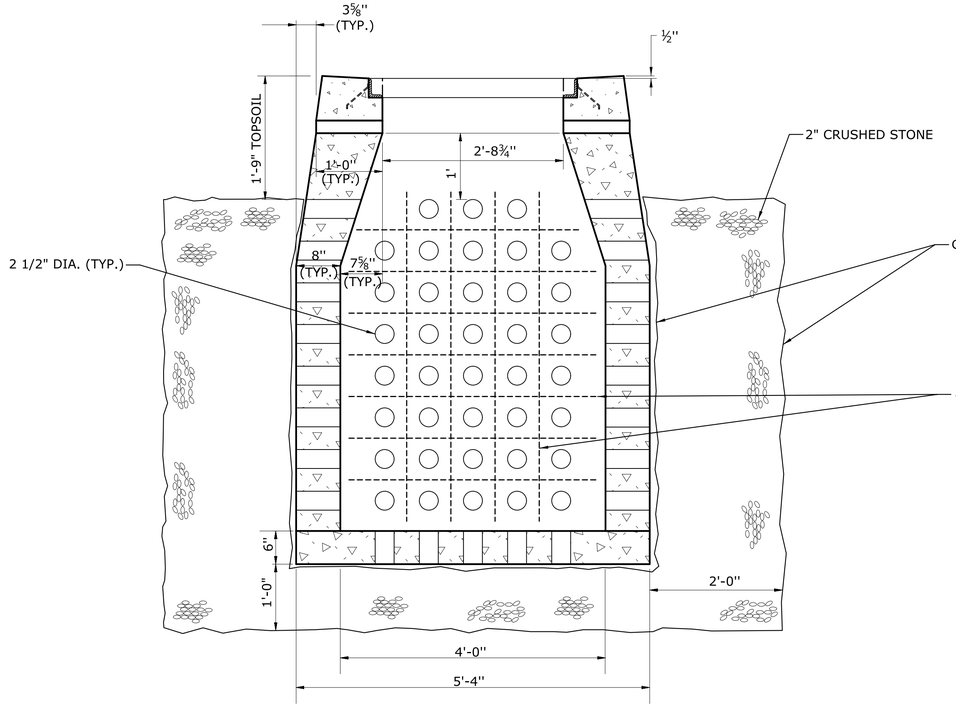
TYPE 'C-L' DRYWELL CATCHBASIN (4' SUMP)



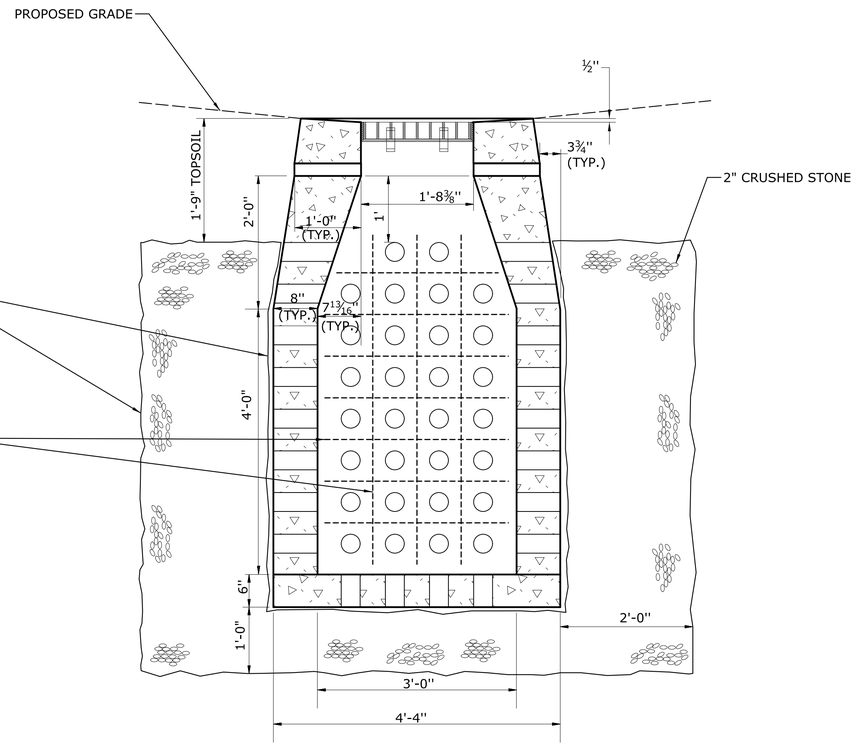
TOP OF FRAME
PLAN

NOTES:

1). FOR DETAILS ON CATCH BASIN TOP SEE STANDARD SHEET NO. HW-586_07.
2). FOR DETAILS ON FRAME AND GRATE SEE STANDARD SHEET NO. HW-586_08.
3). THE COST OF ALL REINFORCING STEEL SHALL BE INCLUDED IN THE COST FOR TYPE 'C-L' DRYWELL CATCHBASIN (4' SUMP).



SECTION A



SECTION B

DESIGNER/DRAFTER: JLM
CHECKED BY: ATE
Plotted Date: 3/23/2021
Filename: D:\Users\mccoy\!Connecticut Department of Transportation\0055-0142 - Internal Documents\330_Design_Data\0055-0142-SS41\330_Design_Data\Highways\HW_MSH_0055_0142_MDS-14.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

NOT TO SCALE

SIGNATURE/
BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

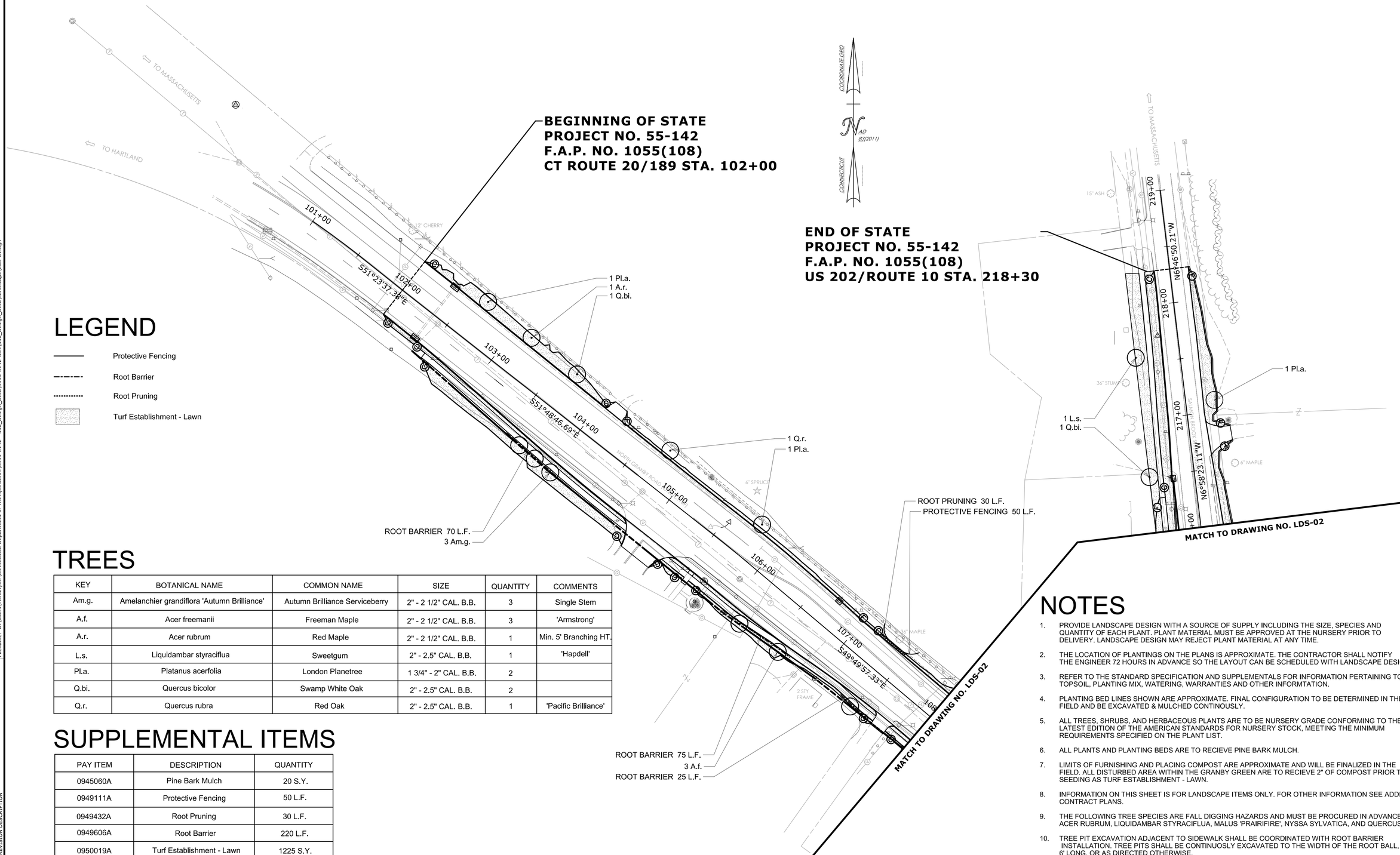
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: MISCELLANEOUS DETAILS
DRYWELL

DRAWING NO. MDS-14
SHEET NO.



LEGEND

- Protective Fencing
- Root Barrier
- Root Pruning
- Turf Establishment - Lawn

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
Am.g.	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2" - 2 1/2" CAL. B.B.	3	Single Stem
A.f.	Acer freemanii	Freeman Maple	2" - 2 1/2" CAL. B.B.	3	'Armstrong'
A.r.	Acer rubrum	Red Maple	2" - 2 1/2" CAL. B.B.	1	Min. 5' Branching HT.
L.s.	Liquidambar styraciflua	Sweetgum	2" - 2.5" CAL. B.B.	1	'Hapdell'
Pl.a.	Platanus acerfolia	London Planetree	1 3/4" - 2" CAL. B.B.	2	
Q.bi.	Quercus bicolor	Swamp White Oak	2" - 2.5" CAL. B.B.	2	
Q.r.	Quercus rubra	Red Oak	2" - 2.5" CAL. B.B.	1	'Pacific Brilliance'

SUPPLEMENTAL ITEMS

PAY ITEM	DESCRIPTION	QUANTITY
0945060A	Pine Bark Mulch	20 S.Y.
0949111A	Protective Fencing	50 L.F.
0949432A	Root Pruning	30 L.F.
0949606A	Root Barrier	220 L.F.
0950019A	Turf Establishment - Lawn	1225 S.Y.

NOTES

1. PROVIDE LANDSCAPE DESIGN WITH A SOURCE OF SUPPLY INCLUDING THE SIZE, SPECIES AND QUANTITY OF EACH PLANT. PLANT MATERIAL MUST BE APPROVED AT THE NURSERY PRIOR TO DELIVERY. LANDSCAPE DESIGN MAY REJECT PLANT MATERIAL AT ANY TIME.
2. THE LOCATION OF PLANTINGS ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS IN ADVANCE SO THE LAYOUT CAN BE SCHEDULED WITH LANDSCAPE DESIGN.
3. REFER TO THE STANDARD SPECIFICATION AND SUPPLEMENTALS FOR INFORMATION PERTAINING TO TOPSOIL, PLANTING MIX, WATERING, WARRANTIES AND OTHER INFORMTATION.
4. PLANTING BED LINES SHOWN ARE APPROXIMATE. FINAL CONFIGURATION TO BE DETERMINED IN THE FIELD AND BE EXCAVATED & MULCHED CONTINOUSLY.
5. ALL TREES, SHRUBS, AND HERBACEOUS PLANTS ARE TO BE NURSERY GRADE CONFORMING TO THE LATEST EDITION OF THE AMERICAN STANDARDS FOR NURSERY STOCK, MEETING THE MINIMUM REQUIREMENTS SPECIFIED ON THE PLANT LIST.
6. ALL PLANTS AND PLANTING BEDS ARE TO RECIEVE PINE BARK MULCH.
7. LIMITS OF FURNISHING AND PLACING COMPOST ARE APPROXIMATE AND WILL BE FINALIZED IN THE FIELD. ALL DISTURBED AREA WITHIN THE GRANBY GREEN ARE TO RECIEVE 2" OF COMPOST PRIOR TO SEEDING AS TURF ESTABLISHMENT - LAWN.
8. INFORMATION ON THIS SHEET IS FOR LANDSCAPE ITEMS ONLY. FOR OTHER INFORMATION SEE ADDITIONAL CONTRACT PLANS.
9. THE FOLLOWING TREE SPECIES ARE FALL DIGGING HAZARDS AND MUST BE PROCURED IN ADVANCE: ACER RUBRUM, LIQUIDAMBAR STYRACIFLUA, MALUS 'PRAIRIFIRE', NYSSA SYLVATICA, AND QUERCUS RUBRA.
10. TREE PIT EXCAVATION ADJACENT TO SIDEWALK SHALL BE COORDINATED WITH ROOT BARRIER INSTALLATION. TREE PITS SHALL BE CONTINUOSLY EXCAVATED TO THE WIDTH OF THE ROOT BALL, AND 6' LONG, OR AS DIRECTED OTHERWISE.

DESIGNER/DRAFTER: MM
CHECKED BY: SF
Plotted Date: 4/29/2021
Filename: D:\Users\mcrultymr\Connecticut Department of Transportation\0055-0142 - 330_Design_Data\0055-0142-SSA\330_Design_Data\Landscape\LDS-01.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

HORIZONTAL SCALE 1"=40' (0, 40', 80')

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: LANDSCAPE DESIGN SHEET
DRAWING NO. LDS-01
SHEET NO.

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
Am.g.	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brillaince Serviceberry	2" - 2 1/2" CAL. B.B.	6	Single Stem
A.r.	Acer rubrum	Red Maple	2" - 2 1/2" CAL. B.B.	1	Min. 5' Branching HT.
C.v.	Chionanthus virginicus	White Fringe Tree	4' - 5' HT. B.B.	2	
G.b.	Gingko biloba	Maidenhair Tree	2" - 2 1/2" Cal. B.B.	4	'Princeton Sentry'
M.p.	Malus 'Prairifire'	Prairifire Crabapple	2" - 2.5" CAL. B.B.	1	
N.s.	Nyssa sylvatica	Black Tupelo	2.5" - 3" CAL. B.B.	2	
Q.bi.	Quercus bicolor	Swamp White Oak	2 1/2" - 3" CAL. B.B.	1	
Q.p.	Quercus palustris	Pin Oak	2" - 2 1/2" Cal. B.B.	4	'Pacific Brilliance'
Q.r.	Quercus rubra	Northern Red Oak	2 1/2" - 3" CAL. B.B.	2	
S.r.	Syringa reticulata	'Ivory Silk' Japanese Tree Lilac	2" - 2.5" CAL. B.B.	6	

SHRUBS AND HERBACEOUS MATERIAL

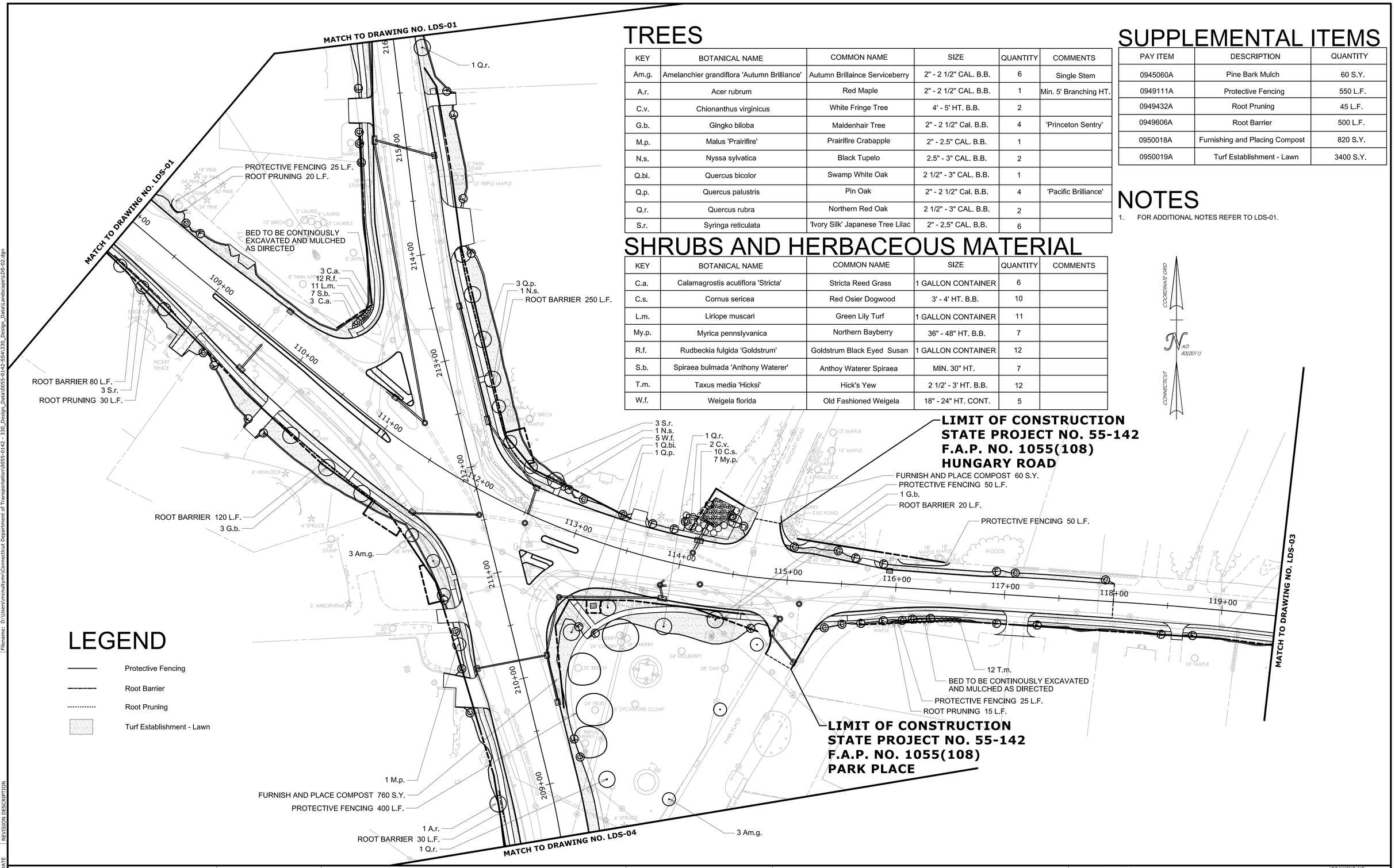
KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
C.a.	Calamagrostis acutiflora 'Stricta'	Stricta Reed Grass	1 GALLON CONTAINER	6	
C.s.	Cornus sericea	Red Osier Dogwood	3' - 4' HT. B.B.	10	
L.m.	Liriope muscari	Green Lily Turf	1 GALLON CONTAINER	11	
My.p.	Myrica pennslyvanica	Northern Bayberry	36" - 48" HT. B.B.	7	
R.f.	Rudbeckia fulgida 'Goldstrum'	Goldstrum Black Eyed Susan	1 GALLON CONTAINER	12	
S.b.	Spiraea bulmada 'Anthony Waterer'	Anthoy Waterer Spiraea	MIN. 30" HT.	7	
T.m.	Taxus media 'Hicksi'	Hick's Yew	2 1/2' - 3' HT. B.B.	12	
W.f.	Weigela florida	Old Fashioned Weigela	18" - 24" HT. CONT.	5	

SUPPLEMENTAL ITEMS

PAY ITEM	DESCRIPTION	QUANTITY
0945060A	Pine Bark Mulch	60 S.Y.
0949111A	Protective Fencing	550 L.F.
0949432A	Root Pruning	45 L.F.
0949606A	Root Barrier	500 L.F.
0950018A	Furnishing and Placing Compost	820 S.Y.
0950019A	Turf Establishment - Lawn	3400 S.Y.

NOTES

1. FOR ADDITIONAL NOTES REFER TO LDS-01.



LEGEND

- Protective Fencing
- Root Barrier
- Root Pruning
- Turf Establishment - Lawn

DESIGNER/DRAFTER: MM
CHECKED BY: SF
Plotted Date: 4/29/2021
Filename: D:\Users\mcnulty\m\Connecticut Department of Transportation\0055-0142 - 330_Design_Data\Landscape\LDS-02.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: LANDSCAPE DESIGN SHEET
DRAWING NO. LDS-02
SHEET NO.

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
Am.g.	Amelanchier grandiflora 'Autumn Brilliance'	Autumn Brillaince Serviceberry	2" - 2 1/2" CAL. B.B.	1	Single Stem
N.s.	Nyssa sylvatica	Black Tupelo	2 1/2" - 3" Cal. B.B.	2	

SHRUBS AND HERBACIOUS PLANTS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
R.sp.	Rosa meidland (white)	Meidiland White Rose	18" - 24" SPR. B.B.	10	or 'Drift' Series

SUPPLEMENTAL ITEMS

PAY ITEM	DESCRIPTION	QUANTITY
0945060A	Pine Bark Mulch	15 S.Y.
0949606A	Root Barrier	20 L.F.
0950019A	Turf Establishment - Lawn	320 S.Y.

COORDINATE GRID

NAD 83(2011)

CONNECTICUT

END OF STATE
PROJECT NO. 55-142
F.A.P. NO. 1055(108)
CT ROUTE 20 STA. 125+50

MATCH TO DRAWING NO. LDS-02

120+00 S83°00'33.72"E 121+00 122+00 123+00 124+00 125+00 126+00 S80°18'04.42"E 127+00 128+00 129+00

TO EAST GRANBY

ROOT BARRIER 20 L.F.
1 A.mg.
1 N.s.
5 R.sp.

1 N.s.
5 R.sp.

NOTES

1. FOR ADDITIONAL NOTES REFER TO LDS-01.

LEGEND

- Protective Fencing
- Root Barrier
- Root Pruning
- Turf Establishment - Lawn

DESIGNER/DRAFTER: MM
CHECKED BY: SF
Plotted Date: 4/29/2021
Filename: D:\Users\mcrultymr\Connecticut Department of Transportation\0055-0142-SSA\330_Design_Data\Landscape\LDS-03.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE 1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

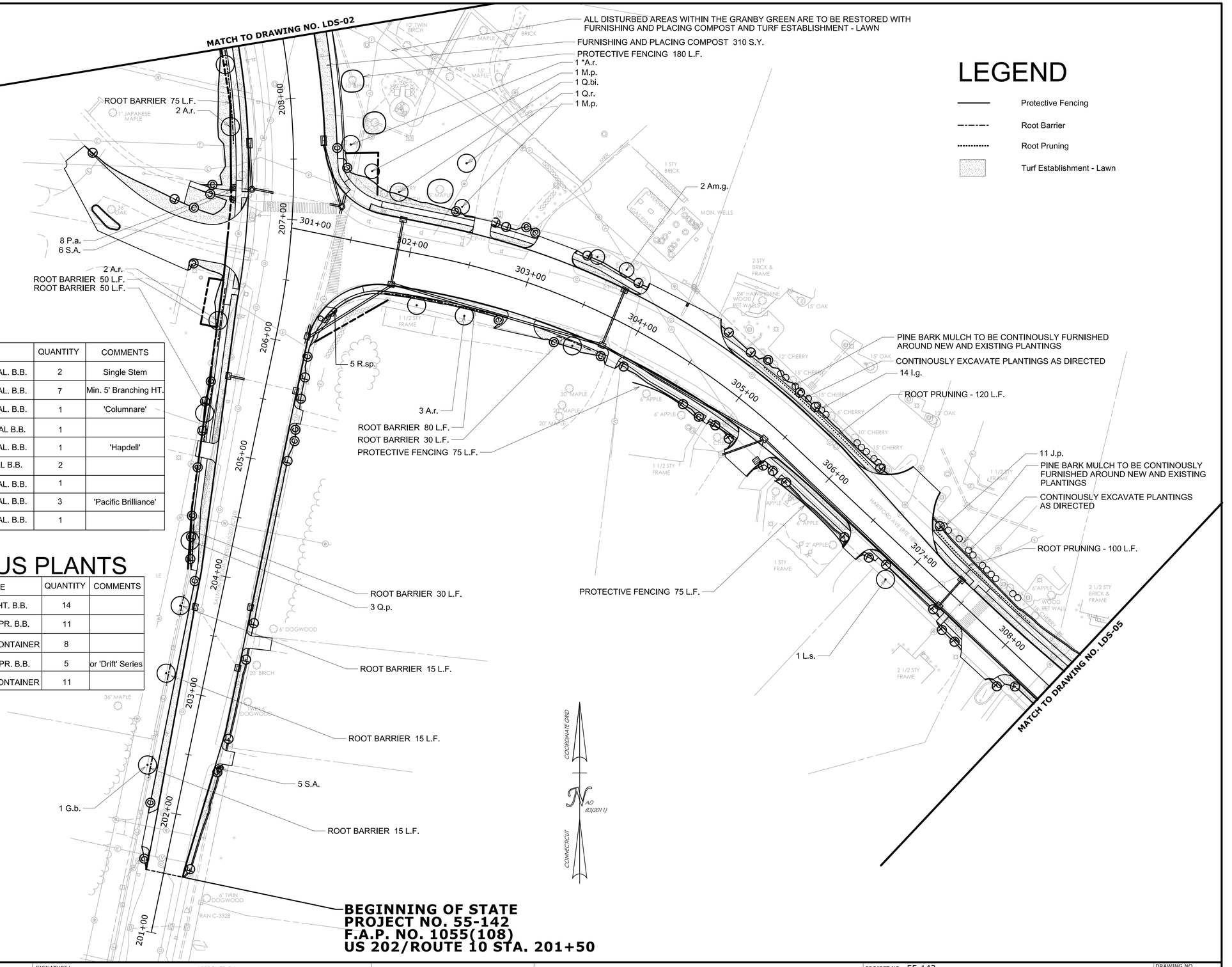
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: LANDSCAPE DESIGN SHEET

DRAWING NO. LDS-03
SHEET NO.



LEGEND

- Protective Fencing
- Root Barrier
- Root Pruning
- Turf Establishment - Lawn

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
Am.g.	Amelanchier grandiflora	'Autumn Brilliance' Serviceberry	2"-2 1/2" CAL. B.B.	2	Single Stem
A.r.	Acer rubrum	Red Maple	2"-2 1/2" CAL. B.B.	7	Min. 5' Branching HT.
*A.r.	Acer rubrum	Red Maple	2"-2 1/2" CAL. B.B.	1	'Columnare'
G.b.	Ginko biloba	Maidenhair Tree	2 1/2"-3" CAL B.B.	1	
L.s.	Liquidambar styraciflua	American Sweet Gum	2 1/2"-3" CAL. B.B.	1	'Hapdell'
M.p.	Malus 'Prariefire'	Prariefire Crabapple	2"-2.5" CAL B.B.	2	
Q.bi.	Quercus bicolor	Swamp White Oak	2 1/2"-3" CAL. B.B.	1	
Q.p.	Quercus palustris	Pin Oak	2"-2 1/2" CAL. B.B.	3	'Pacific Brilliance'
Q.r.	Quercus rubra	Northern Red Oak	2 1/2"-3" CAL. B.B.	1	

SHRUBS AND HERBACEOUS PLANTS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
I.g.	Ilex glabra	Inkberry	24"-36" HT. B.B.	14	
J.p.	Juniperus pfitzer compactus	Compact Pfitzer Juniper	18"-24" SPR. B.B.	11	
P.a.	Percovskia atriplicifolia	Russian Sage	1 GALLON CONTAINER	8	
R.sp.	Rosa meidiland (white)	White Meidiland Rose	18"-24" SPR. B.B.	5	or 'Drift' Series
S.A.	Sedum 'Autumn Joy'	Autumn Joy Sedum	1 GALLON CONTAINER	11	

SUPPLEMENTAL ITEMS

PAY ITEM	DESCRIPTION	QUANTITY
0949606A	Pine Bark Mulch	200 S.Y.
0949111A	Protective Fencing	330 L.F.
0949432A	Root Pruning	220 L.F.
0949606A	Root Barrier	360 L.F.
0950018A	Furnishing and Placing Compost	310 S.Y.
0950019A	Turf Establishment - Lawn	1760 S.Y.

NOTES

1. FOR ADDITIONAL NOTES REFER TO LDS-01.

DESIGNER/DRAFTER: MM
CHECKED BY: SF
Plotted Date: 4/29/2021
Filename: D:\Users\mcnultym\Connecticut Department of Transportation\0055-0142 - 330_Design_Data\0055-0142-SSK\330_Design_Data\Landscape\LDS-04.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

HORIZONTAL SCALE 1"=40' (0, 40', 80')

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: LANDSCAPE DESIGN SHEET
DRAWING NO. LDS-04
SHEET NO.

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
L.s.	Liquidambar styraciflua	Sweetgum	2 1/2"-3" CAL. B.B.	1	'Hapdell'

SHRUBS AND HERBACEOUS MATERIAL

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	COMMENTS
L.m.	Liriope muscari	Green Lily Turf	1 GALLON CONTAINER	9	
R.f.	Rudbeckia fulgida 'Goldstrum'	Goldstrum Black Eyed Susan	1 GALLON CONTAINER	16	
R.sp.	Rosa meidiland (white)	Meidiland White Rose	18" - 24" SPR. B.B.	5	or 'Drift' Series

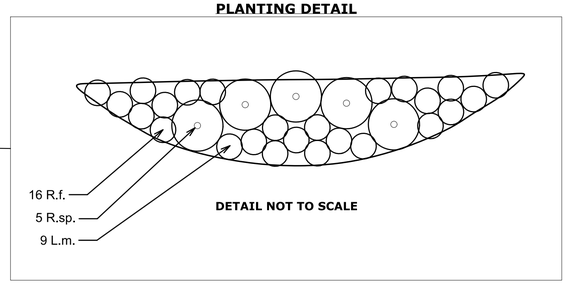
SUPPLEMENTAL ITEMS

PAY ITEM	DESCRIPTION	QUANTITY
0945060A	Pine Bark Mulch	10 S.Y.
0949606A	Root Barrier	15 L.F.
0950019A	Turf Establishment - Lawn	270 S.Y.

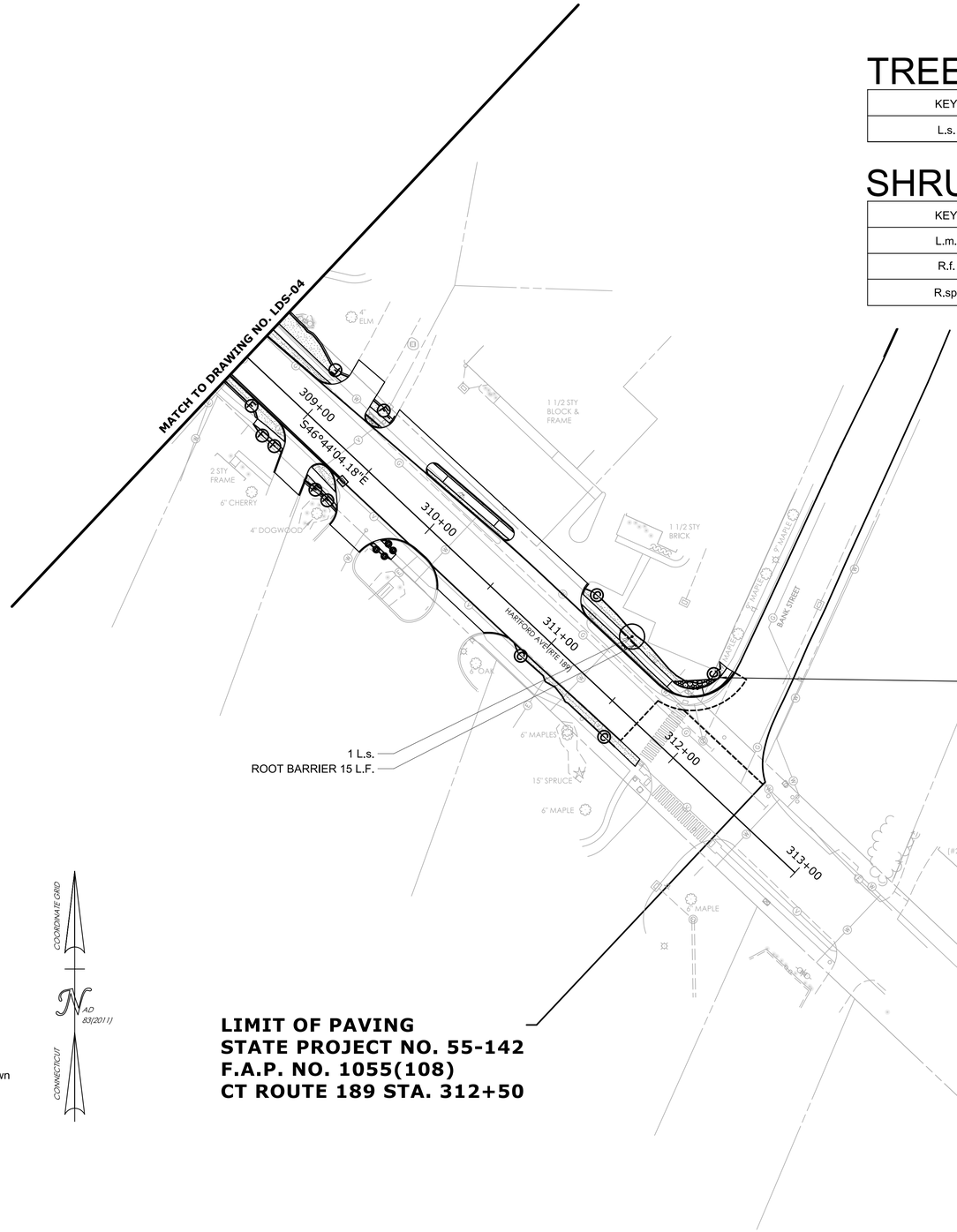
NOTES

1. FOR ADDITIONAL NOTES REFER TO LDS-01.

PLANTING DETAIL



DETAIL NOT TO SCALE



LIMIT OF PAVING
STATE PROJECT NO. 55-142
F.A.P. NO. 1055(108)
CT ROUTE 189 STA. 312+50

LEGEND

- Protective Fencing
- Root Barrier
- Root Pruning
- Turf Establishment - Lawn

COORDINATE GRID
NAD 83(2011)
CONNECTICUT

DESIGNER/DRAFTER: MM
CHECKED BY: SF
Plotted Date: 4/29/2021
Filename: D:\Users\mcnultym\Connecticut Department of Transportation\0055-0142 - 330_Design_Data\0055-0142-SSA\330_Design_Data\Landscape\LDS-05.dgn

REV.	DATE	REVISION DESCRIPTION
-	-	-

0 40' 80'
HORIZONTAL SCALE
1"=40'

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

APPROVED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

MAJOR INTERSECTION IMPROVEMENTS
US 202/ROUTE 10 AT ROUTE 20 AND ROUTE 189

TOWN OF GRANBY

PROJECT NO. 55-142
DRAWING TITLE: LANDSCAPE DESIGN SHEET

DRAWING NO. LDS-05
SHEET NO.

Appendix D – CTDOT MS4 MEP Worksheet

CTDOT MS4 Project Design
Maximum Extent Practicable (MEP) Worksheet

Section 1: Project Information	**Project #:**	55-142
	Title:	Major Intersection Improvements US202/Route 10 At Route 20 and Route 189
	Location:	Granby, CT

Section 2: Existing Conditions

EC1	Total Project Area			8.60 acres		
EC2	Pre-construction Directly Connected Impervious Area (DCIA):			5.09 acres	59.19 %	
EC3	Soil Infiltration Potential	Data Source: ☑Existing Report / Soils Map ☐Field Verified		☑Good/Fair	☐Poor	☐Mixed
EC4	Depth to Maximum Groundwater		☐TBD	14' to		ft below grade
EC5	Depth to Bedrock		☑TBD	to		ft below grade
EC6	Aquifer Protection Area? (from PNDF)			☐Yes	☑No	
EC7	MS4 Priority Area? (from PNDF)			☑Yes (See Below)	☐No	
	Check All That Apply	☐Urbanized Area	☑DCIA >11%	☑Impaired Waterbody (See Below)		
	Select All Impairments That Apply	Bacteria	Choose an Item	Choose an Item		
EC8	Contamination known or suspected to be present? (From Environmental Compliance)			☑Yes	☐No	
EC9	Adjoining DOT ROW beyond project limits available for stormwater quality management			0 acres		

Section 3: Designed Conditions

	Water Quality Calculations		**30% Design**		**60% Design**	**90% Design**	**FDP**
DC1	WQV retention design goal	☐ Full ☑ 1/2"-WQV	ac-ft	☐ TBD	ac-ft	ac-ft	0.28 ac-ft
DC2	WQV goal ***retained*** (refer to page 2)		ac-ft		ac-ft	ac-ft	0.01 ac-ft
DC3	WQV goal ***treated*** (refer to page 2)		ac-ft		ac-ft	ac-ft	0 ac-ft
DC4	Total WQV *retained and treated*		0 **ac-ft**		0 **ac-ft**	0 **ac-ft**	0.01 **ac-ft**
DC5	Post-construction DCIA(acres)		ac.	☐ TBD	ac.	ac.	5.96 ac.
DC6	Pre-construction DCIA (refer to EC2 above)		ac.		ac.	ac.	5.09 ac.
DC7	Change in DCIA from pre- to post-construction *Can be positive (DCIA gained) or negative (DCIA lost)*		0 **ac.**	☐ **TBD**	0 **ac.**	0 **ac.**	0.87 **ac.**
	Date completed						03/11/21
	Completed by (initials)						JLM
	Reviewed by (initials)						

Notes:

Worksheet users should refer to the *CT DOT MS4 Project Design MEP Worksheet Instructions*

Section 4: Stormwater BMP Selection Summary						
Design Phase ☐30% ☐60% ☐90% ☑FDP	**WQV Retained (ac-ft)**	**WQV Treated (ac-ft)**	**DCIA Captured (Acres)**	**DCIA Disconnection Credit (%)**	**DCIA Disconnection Credit (acres)**	**Site Constraints**
Disconnection (Dispersion)						
						Choose an Item.
						Choose an Item.
						Choose an Item.
Conveyance (Swales / Channels)						
						Choose an Item.
						Choose an Item.
						Choose an Item.
Infiltration / Retention						
Dry Well	0.01	0				Choose an Item.
						Choose an Item.
						Choose an Item.
						Choose an Item.
						Choose an Item.
						Choose an Item.
						Choose an Item.
Treatment						
						Choose an Item.
						Choose an Item.
						Choose an Item.
TOTAL	0.01	0	0	0	0	

Notes: This project is located in the Granby Town Center. There is a limited amount of right of way within the project limits and directly outside the project limits. A meeting was held with environmental compliance on 09/20/19 to discuss BMPs. Based on this meeting and our analysis installing one dry well is the best we could do for this project.

Worksheet users should refer to the *CT DOT MS4 Project Design MEP Worksheet Instructions.* Refer to the 2004 CT Stormwater Quality Manual for more information on BMP criteria and limitations.

Appendix E – Construction Site Environmental Inspection Report (CSEIR)

State of Connecticut
Department of Transportation
Construction Site Environmental Inspection Report

This Form Must Be Completed At Least Once A Week And Within Twenty Four (24) Hours Of The End Of A Storm Event That Is 0.1 inches Or Greater

General Information			
Project Number		**Date**	
Permit Number(s)		**Location**	
		Phone No.	
Project Engineer		**Chief Inspector**	
Contractor			
Describe present phase of construction/activities that are occurring			

Type of Inspection:
☐ Weekly ☐ Pre-storm event ☐During storm event ☐ Post-storm event

Weather Information
Has there been a storm event since the last inspection? ☐Yes ☐No **If yes, provide:**
Storm Start Date & Time: Storm Duration (hrs): Type and Approximate Amount of Precipitation (in):
Weather at time of this inspection? ☐ Clear ☐Cloudy ☐ Rain ☐ Sleet ☐ Fog ☐ Snowing ☐High Winds Temperature:

Site-specific BMPs

- *Number the structural and non-structural BMPs on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map for reference with you during your inspections.*

BMP Maintenance							
	BMP or Observation Site and Location	**BMPs Installed ?**	**BMP Maintenance Required?**	**Remedial Action Required and Date Contractor was Notified *ALL REMEDIAL ACTIONS MUST BE COMPLETED WITHIN 24 HOURS***	**Date Fixed**	**Photo Taken ?**	**Repeat Failure?**
1		☐Yes ☐No	☐Yes ☐No			☐Yes ☐No	☐Yes ☐No
2		☐Yes ☐No	☐Yes ☐No			☐Yes ☐No	☐Yes ☐No
3		☐Yes ☐No	☐Yes ☐No			☐Yes ☐No	☐Yes ☐No

Are there any sediment discharges to a regulated area occurring or have any occurred since the last inspection? ☐Yes ☐No

If yes, contact the District Environmental Coordinator immediately.

Describe the discharge including location, time identified, and the approximate amount of sediment. (on back)

Environmental Inspector: _____

Signature: _____ **Date:** _____

Reviewed by: _____

Signature: _____ **Date:** _____

Appendix F – Notice of Termination Form

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Notice of Termination Form

Please complete and submit this form in accordance with the general permit (DEP-PED-GP-015) in order to ensure the proper handling of your termination. Print or type unless otherwise noted.

Note: Ensure that for commercial and industrial facilities, registrations under the *General Permit for the Discharge of Stormwater Associated with Industrial Activity* (DEP-PED-GP-014) or the *General Permit for the Discharge of Stormwater from Commercial Activities* (DEP-PED-GP-004) have been filed where applicable. For questions about the applicability of these general permits, please call the Department at 860-424-3018.

Part I: Registrant Information

1. Permit number: ***GSN***
2. Fill in the name of the registrant(s) as indicated on the registration certificate:

   Registrant:
3. Site Address:

   City/Town: State: Zip Code:
4. Date all storm drainage structures were cleaned of construction sediment:

   Date of Completion of Construction:

   Date of Last Inspection (must be at least three months after final stabilization pursuant to Section 6(b)(6)(D) of the general permit):
5. Check the post-construction activities at the site (check all that apply):

   ☐ Industrial ☐ Residential ☐ Commercial ☐ Capped Landfill

   ☐ Other (describe):

Part II: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Signature of Permittee	Date
Name of Permittee (print or type)	Title (if applicable)

Note: Please submit this Notice of Termination Form to:

STORMWATER PERMIT COORDINATOR
BUREAU OF WATER MANAGEMENT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127